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L. T. RIESMEYER, M.D.,

EDITOR.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

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[CONTINUED.]

X.—Their Value and Use in Obstetrics and Gynecology.

The influence of antisepsis and asepsis was far-reaching. It pervaded wholly all of the various fields of medical science; it not only revolutionized surgery and left its decided impress upon the general practice of medicine but also very notably affected obstetrics and gynecology. No sooner had the benefits of Lister's teachings been fully demonstrated than obstetricians and gynecologists began the application of similar methods and principles in the lying-in chamber and operating room. This was done anxiously and expectantly at first but the ultimate fruit of success was the establishment of supreme confidence. In obstetrics, as well as in the other fields of the medical art, sepsis is the chief general condition dependent upon the presence of micro-organisms. The technical use of this term implies not only the actual presence of such micro organisms but also the various accompanying forms of intoxication which result from certain forms of necrobiosis or destruction of the minuter and cellular elements of the tissues. It is not necessary to uphold this statement by lengthy argument, for it has been indubitably proven—indeed the occurrence of sepsis and septic conditions is now universally admitted to be due to the presence of certain and particular forms of germ life. Of the conservative and other various phenomena induced by their presence, suppuration is at once the most common and most obvious. The commonest of the pyogenic or pus-forming germs are the *Staphylococcus pyogenes aureus, albus* and *citrus* and the *Streptococcus pyogenes.*

These germs by their presence induce septic conditions, *ergo*, prevent their access to and subsequent invasion of the tissues and the occurrence, development and consequences of sepsis, in its various forms, are also prevented. This also is universally acknowledged. However much we may disagree in our opinions as to the use or virtue of any particular antiseptic *substance* we must and do all agree unanimously as to the extreme virtue of the *principle.* There is not the slightest doubt but that it is infinitely better for the parturient woman not only to render such patient absolutely clean, domestically, surgically and bacteriologically, but also to exclude all septic influences from the puerperal chamber. Of course ideal conditions in this respect are hardly possible to attain and it is infinitely easier to write this than to do this; but it is possible to attain a relative freedom from such infectious influences by the exercise of absolute care and patience—"patience is bitter but its fruit is sweet." It may cost the physician some inconvenience and trouble, but is the life and health of the patient to be bartered for the convenience of the professional attendant?

The means by which disinfection is accomplished are legion. Probably the best means of sterilization of instruments and dressings is by the use of the antiseptic and germicidal power of moist heat; this is readily attained by the use of the Arnold and other forms of sterilizers which are now made for the use of the physician and surgeon. Sterilization of instruments and dressings materially decreases the chances of infection as far as the armamentarium *per se* is concerned. But we must also be mindful of the fact that there are other avenues by means of which infection may gain access and these are of equal, if not greater, importance—namely, the patient's own body and the operator's hands, as has been shown in a previous paper. Kelly, Robb and Ghriskey, of the Johns Hopkins University, have proven by rigid and ample experimentation that the *Staphylococcus pyogenes albus*, and sometimes *aureus*, are present in enormous numbers on the hands and about the nails of all physicians and surgeons. This is but natural when we consider how often they come in contact with infectious material. The possibility of direct transmission of infection by the hands of the physician first seemed to suggest itself in the occurrence of puerperal septicemia under conditions which

seemed to indicate such a cause. Of this fact there are recorded many lamentable instances. This origin of the disease was pointed out by Gordon toward the latter part of the last century; he said that he himself "was the means of carrying the infection to a great number of women" and also traced the spread of the disease in the same way in the practice of certain midwives. As Playfair remarks, in some remarkable instances this unhappy property of carrying contagion has clung to individuals in a way that formerly seemed most mysterious and led to the supposition that the whole system had become saturated, as it were, with some subtle and volatile poison. One of the strangest cases of this kind was that of Dr. Rutter, of Philadelphia, which caused much discussion. He had forty-five cases of puerperal septicemia in his own practice in one year, while none of his neighbors' patients were attacked. It is related that, in order to "rid himself of the mysterious influence which seemed to attend upon his practice, he left the city for ten days, and before waiting on the next parturient case had his hair shaved off and put on a wig, took a hot bath, and changed every particle of his apparel, taking nothing with him that he had worn or carried to his knowledge on any former occasion; and mark the result. The lady, notwithstanding that she had an easy parturition, was seized the next day with childbed fever, and died on the eleventh day after the birth of the child. Two years later he made another attempt at self purification, and the next case attended fell a victim to the same disease." Meigs, in commenting on the case, refused to believe that Dr. Rutter carried the poison, but rather thought that he was "merely unhappy in meeting with such accidents through *God's* providence," and asks, "Did he distil a subtle essence which he carried with him?" It appears, however, that Dr. Rutter was the subject of a form of ozena which was sufficiently severe to disfigure him in time, from its effect upon the contour of his nose, as Harris says. It is, of course, obvious that under these peculiar circumstances his hands could never have been free from pyogenic organisms and septic matter. This is of peculiar interest because it shows how obscure may be the source of infection and how thorough must be the preparation which would obviate its transmission to a patient. This is only one of many, many thousands of similar cases—that is, similar in the fact that the infection was directly transmitted.

Not only may contagion dwell within or upon the person of the physician, as in the case just cited, but Kelly, Robb, Ghriskey and others have proven that pyogenic organisms are to be found in quantity upon the hands and beneath the nails of every physician and surgeon—at least, this occurred in the case of every single one of a large number who were examined. Not only were these germs found in quantity but it was also demonstrated that washing and scrubbing the hands with brush, soap and water, even as long as twenty-five minutes, was utterly inadequate to remove all of the germs. Nevertheless such washing and scrubbing by mechanically removing detachable epithelial and subungual debris which are constantly loaded with germs materially reduces the chances of infection. In sixty-five experiments upon physicians who scrubbed the hands freely, from ten to twenty five minutes, with strong brown soap and hot water frequently changed, fifty-six (that is, all but nine) yielded numerous colonies of pyogenic organisms; in almost every case these germs were specimens of *Staphylococcus pyogenes albus* and in some cases *Staphylococcus pyogenes aureus*. The remaining nine owed their escape to the inhibitory influence of mercuric chlorid which had been used as far back as the previous day. In seven additional experiments which were made upon nurses, positive results were obtained in every case, developing variously forty, sixty, six hundred and myriads of colonies of *Staphylococcus pyogenes albus* and a few of *aureus*. As the experimenters remark, it was known in each instance that the test was about to be made and all endeavored by unusually vigorous efforts to earn the credit of "no growth."

Kelly further remarks that solutions of corrosive sublimate (mercuric chlorid or bi chlorid of mercury) even as strong as 1:500 are *not* germicidal after immersion of the hands from two to five minutes. The mercury salt acts either by mechanically coating some portion of the coccus or else chemically combining with it, *thus only inhibiting further growth until the salt is precipitated or otherwise removed.* Kelley says: "This I have repeatedly shown to be true following both the ordinary practice of immersion of the hands from two to five minutes in 1:500 and 1:1000 solutions after a preliminary washing for ten minutes with soap and water, and again after carefully following out Fuerbringer's method, now so generally adopted. The latter method was distinctly shown to be inefficient in almost every instance. It is briefly the following:

Clean the nails with a pointed steel.

Scrub the hands, especially the nails, one minute with soap and hot water and a sterile brush.

Immerse the hands in alcohol (not under eight per cent) for one minute; immediately transfer hands, still wet with the alcohol, to a freshly-prepared solution of mercury bi-chloride, 1:500, for one minute, *when they are supposed to be sterile.*

I exhibit in my hands four tubes carrying cultures which failed to develop after sterilizing by this method, illusively showing an apparent sterility, for here on the other hand, are cultures taken from the same fingers *after precipitating the bichloride with a sterile ammonium sulphide solution, and these show innumerable colonies.*"

These results are striking and are but confirmed by the late experiments exploding the old classic belief in the inordinate germicidal power of mercuric chlorid, which has been heretofore placed so inexactly and so inaccurately high. He further says: "It is a remarkable fact, of great practical importance, that this inhibitory effect of the bichloride holds over on the hands for twenty four hours. In two instances of men who had

been away from the hospital for from four to six weeks, the ammonium sulphide produced the characteristic dark stain on the fingers, showing the presence of bichloride. Here is the source of error explaining the nine negative results in the hands of my staff after simple soap-and-water cleansing. We did not then know of this property of the sublimate.

Four experiments were made also with a four per cent solution of lysol; all yielded colonies.

Three experiments with peroxide of hydrogen also furnished abundant colonies." From this we infer then that really positive results were obtained not only in the case of the experiments upon the hands of nurses but also in the sixty-five experiments upon the hands of physicians; the nine apparent negative results being due to extraneous inhibition and not due to the scrubbing. We also conclude that mercuric chlorid, lysol (four per cent) and peroxide of hydrogen are useless as far as absolutely sterilizing the hands is concerned; the first, however, has strong inhibitory properties. Kelly favors the use of trimming and cleaning the nails, scrubbing the hands thoroughly with brown soap and hot water and subsequent immersion in a saturated solution of potassic permanganate followed by neutralization and decolorization by immersion in a saturated solution of oxalic acid; he claims that this thoroughly sterilizes the hands. Certainly such procedures are upheld by a large number of experiments in which no colonies developed subsequent to their use, even immediately after the demonstration of countless colonies after the use of soap and water. Also in the very low percentage of cases in which germs developed, in this latter case the occurrence of colonies being small and such as found consisting of small and definite numbers of micro organisms. Potassic permanganate and oxalic acid are not only harmless to the hands but afford the most efficient germicidal method of sterilizing the hands—indeed, Kelly goes so far as to say that soap and water and potassic permanganate and oxalic acid are the only true germicides for such use and therefore the best we have to-day. He further says that mercuric chlorid, although dangerous on wounds on account of its property of coagulating and causing necrosis of albuminous tissues, has valuable properties of inhibiting, *not destroying*, those germs with which it comes in contact.

The physician must not only free himself from infection but the patient and her attendants, as well as her surroundings, must also be kept absolutely clean. The physician should exercise due care and discretion in making vaginal examinations and after delivery should pay immediate attention to lesions of the genital tract. Antiseptic and aseptic precautions have so materially lowered the death rate from child-birth that it becomes incumbent upon every obstetrician to make use of those means and every precaution which guarantee increased safety, at least. The elementary principles involved in the practice of modern midwifery may be tersely, though not comprehensively summed up as follows:

1. The patient must be made absolutely clean in all of her surroundings. The room, as well as the bed itself, must be clean and free from infectious principles—that is, as far as is practicable. Cleanliness must be insisted upon; it is not expensive—fresh air and clean water cost but little.

2. The accoucheur must render himself as aseptic as possible; also all instruments or dressings which are to be used. The instruments and dressings may be sterilized by moist heat; the hands by the liberal use of the brush, soap and water, the use of the nail brush and the subsequent use of some germicidal solution—preferably that of potassic permanganate and oxalic acid as has been previously described. The physician must make no examination until he is absolutely certain that he can convey no infection to his patient thereby; indeed, he must avoid all examinations which are not absolutely necessary.

3. The child must receive immediate attention when born, so that there may be no danger of sepsis—opthalmic or otherwise. This precaution will not only entirely avert the occurrence of opthalmia neonatorum but of other infantile affections dependent upon the early occurrence of sepsis.

A strict adherence to the dictates of such a policy, while not entirely eliminating death from obstetric practice will certainly materially decrease it. It may be argued that many cases thrive and progress to a favorable termination without the adoption of any preventive measures whatever. This will readily be granted; but it cannot be denied that many more cases progress thus favorably under such precautions than without them. It is then the duty of the physician to spare himself no necessary precaution for the ultimate safety of the patient whose life and health is intrusted to his keeping and when he accepts the issue he also accepts this responsibility.

The benefits of antiseptic treatment in the various hospitals and lying-in institutions have been so signal, so apparent, so enormous, that all criticism has been disarmed and silenced and every doubt as to value and expediency has vanished. This is happily true of hospitals, but a condition of things obtains in private practice which is not altogether to the credit of those who neglect proper precautions. Nearly twenty years ago the mortality in the various lying-in institutions was so great that the International Congress of Physicians and Surgeons, then in session at Brussels, adopted resolutions asking for the abolition of such. The prevalence of puerperal septicemia in hospitals or institutions in which lying-in women are congregated had been constantly observed, both at home and abroad; this was accompanied in a vast majority of cases by a most appalling death rate. The disease when once developed spread rapidly from one patient to another until infection was general in spite of all that could be done. In the years 1760, 1768 and 1770 the disease prevailed to such an extent in London that in some of the institutions nearly all of the patients died. It is stated of the Edinburgh Infirmary, in this connection,

that in the year 1778 "almost every woman as soon as she was delivered, or perhaps about twenty-four hours after, was seized with it, *and all of them died*, though every method was used to cure the disorder." The lying-in institutions of the Continent were conducted upon a much larger scale but the death rate was equally large here, even in some of the very best of such institutions. In the *Maison d'Accouchements* of Paris, during many different years, the death rate rose so high that one out of every three patients delivered died—on other occasions as many as ten out of fifteen women delivered died. These frightful results were not peculiar to any one institution nor to any one class of institutions—all seemed beneath the ban. In Vienna in 1823, 19 per cent of the cases died; in 1842, 16 per cent. This condition of affairs progressed until in Berlin in the year 1862 hardly a single patient escaped death and the hospital was therefore eventually closed. It was upon a basis of such fact that the action of the Brussels Congress was predicated. Now the conditions are entirely reversed, the mortality in private practice being greater than that of the hospitals, although by no means alarming. The reason for this is obvious. In the hospital or lying-in institution every precaution is taken; not only are all instruments and dressings sterilized, as well as the hands of the operator, but the whole institution and its wards have been kept in as good a condition of asepsis as is possible under the circumstances. The nurses are properly trained and instructed and a systematic and thorough preparation has been made for an earnest extermination of danger from septic causes. In the home of the patient all of these conditions, even frequently with the exercise of proper care, do not always obtain. The channels by which infection is subtly transmitted or brought within the portals are many and except in illness (and not always then) no systematic effort is made to exclude it. To reproduce the results attained in the hospital or to reproduce the conditions which surround the patient in the hospital we must practically reproduce the hospital itself—or at least its discipline.

At the present day, as we have said, the mortality of private practice is greater than that of hospital practice. It is now between eleven and twelve years since antiseptic methods of treatment were introduced in the New York Maternity Hospital and the result there, as elsewhere, has been a uniform and enormous decrease in not only the occurrence of disease from septic causes but in a most significant reduction of the mortality. Garrigues says that during the nine years preceding the introduction of such methods, (1875 to 1883), 3,504 women were confined in the institution, 146 of whom died—that is, 4.17 per cent. During the last six months before the change was made, 237 women were delivered, 19 of whom died—that is, 8 per cent. Of these nineteen, seventeen succumbed to sepsis—that is 7.17 per cent. During the last month before the introduction of antiseptic methods the total mortality reached 20 per cent and that from sepsis or infection 15.69 per cent. The results following the use of antisepsis he tabulates as follows:

Year.	Deliveries	Deaths.		Per Cent.	
		Total.	From Sepsis	Total Mortality.	From Sepsis.
1884	522	8	4	1.53	0.76
1885	587	3	0	0.56	0.00
1886	446	5	1	1.12	0.22
1887	389	5	1	1 30	0 26
1888	377	3	0	0.79	0.00
1889	314	1	0	0 32	0 00
1890	345	4	1	1 13	0.29
1891	240	1	0	0 42	0.00
	3170	30	7	0.90	0.19

These figures are significant; they reveal the fact that during the years 1885, 1888, 1889 and 1891 there were absolutely no deaths from sepsis in this institution, and at no time in the years tabulated did the mortality from sepsis run above .76 per cent and in one-half of the time was .00 per cent! The mortality in the nine years preceding the introduction of antiseptic methods was nearly 500 per cent (5 times) greater than the same during the eight years following the introduction of such methods of treatment. The deaths from septic infection were reduced to one fifth of one per cent! Contrast this condition with that of pre Listerian days. In the last six months of the non-antiseptic method in the New York Maternity Hospital the mortality from septic causes was 7.17 per cent or more than 35 out of 500; this was reduced by antisepsis to less than 1 out of 500. These mortalities give startling comparisons but the results from antiseptic methods are substantiated by Garrigues by the following statistics:

The Sloane Maternity Hospital of New York was founded comparatively recently; in the report of the first thousand cases only six deaths were reported—only one of these from sepsis. This would give a general mortality of six-tenths of one per cent (0.6 per cent) and a mortality from septic causes of one-tenth of one per cent (0.1 per cent).

Pippingskoeld of Helsingfors during the period of 1884 to 1887, with an average of 650 deliveries *per annum*, had a mortality of 0.29 per cent.

Mermann of Manheim had nearly 700 cases before a single death occurred, and that one was due to rupture of the uterus.

Carl von Braun of Vienna in 1004 consecutive cases met with only two deaths.

Obstetrics and gynecology owe a lasting debt to surgery for the benefits of improved surgical methods and the development of great skill in operative technique as well. Indeed to the specialist in surgery are now relegated many of the operative procedures of both obstetrics and gynecology. Cesarian section, ovario-

tomy, hysterectomy, laparotomy for tubal pregnancy and other causes, and other kindred measures are now properly surgical operations. For their successful obviation we are indebted largely to surgical progress and the application of the results to such forms of treatment. Indeed we find that the influence of modern surgery has largely modified many of the ordinary obstetrical gynecological procedures.

By far the most formidable septic condition which confronts the obstetrician is puerperal septicemia. The condition is, or was rather, unhappily too common to need a description of its incubation, symptoms and the various phenomena which attend its course. The influence which antiseptic measures have had upon its development has already been fully considered statistically. Mermann gives the following etiological factors in the production of a puerperal infection:

1. External infection, caused by pathogenic cocci. This can be prevented by subjective antisepsis.

2. Auto-infection, as understood by Semmelweiss, which may be divided into.

(*a*) Ptomaine intoxication or putrid infection caused by micro-organisms. It cannot be combated and vaginal injections are useless. Prevention is the necessity.

(*b*) Pathological germs which have been lying dormant and are brought into action by the birth. These we find in cases of old exudations, pyo-salpingitis and old abscesses of the glands of Bartholini. In these cases vaginal injections are also usually useless.

3. Vaginal infection caused by pathogenic germs which have found their way into the vagina before labor began.

In all of the branches of modern medicine the watchword is prevention. This is probably the only method by which the development of all varieties of puerperal infection may be prevented. A perfectly ideal management of all puerperal cases may not be *theoretically* attained, although *practically* sufficient to prevent the development of dangerous or even other than the mildest symptoms. In very many lying-in institutions very rigid rules are laid down with a view to the prevention of the possibility of transmission of infectious material to the patient either on the hands of the attendants or on instruments, napkins, etc., and these have met with most satisfactory results. Until recently a few practitioners ridiculed the use of such precautions which were certainly strongly indicative of a proper recognition of the danger and also an earnest endeavor to remove it. Local antisepsis has accomplished most valuable and fruitful results which are by no means to be underestimated. Many experiments and attempts have been made to apply a system of antiseptic medication by the internal use of antiseptic substances but these have, as yet, been unfruitful. While local antisepsis has yielded brilliant results, the outlook in puerperal infection, as far as the virtues expected from internal administration of antiseptics are concerned, is certainly, as yet, not very bright.

[TO BE CONTINUED.]

Report of a Case of Tubal Pregnancy.—Operation.—Recovery.

BY MARY M'LEAN, M D.

Read before the St. Louis Medical Society, June 16, 1894.

Mrs. A. W., aged 29, married, is of medium size and in good flesh. Has been supporting her family during the winter with washing.

Patient was first seen at her home January 17, when she complained of a severe pain in the region of the right ovary, and said that she had just finished a short menstrual period. A hypodermic of sulphate of codeia promptly relieved the pain. As the bowels were much packed, a satisfactory pelvic examination could not be made. She was given a purgative and a codeia tablet, and was asked to report two days later at the Evening Dispensary for Women.

She first called at the dispensary January 19, when the following history was recorded:

Father was tuberculous; mother, healthy. Was a healthy child. Neopause at 15 was normal. Menses became painful after a few years, and have so continued to be. Married at 17, and has had three children and two miscarriages. The last miscarriage occurred three years ago, and she has had occasional pain in the right pelvis ever since. During the past year that pain has been more severe. She menstruated December 22, naturally, and again January 11, with a pale flow.

Bimanual examination shows a uterus very little larger, and somewhat softer, than normal, a tenseness and tenderness of the right broad ligament, and a cyst-like swelling about an inch to the right of the uterus. A diagnosis was deferred, and patient was kept under observation, and a small, soft glycerine tampon employed twice a week.

About February 1, she again menstruated with sharp pain in the right side and discharge of brownish shreds, which were not saved. February 12, the swelling was much larger and very sensitive, and on February 16 and 19, it was found to be rapidly growing and to be about the size of a lemon and indistinctly fluctuating. An extra-uterine pregnancy was now considered almost a certainty by Dr. Ella Marks and myself. The breasts were found to contain colesterine and the uterus to be increasing in size. There was, however, no nausea, from which patient had suffered in all previous pregnancies.

She was now told to remain at home quietly and to keep bowels quite freely open. February 22, Dr. Tupper kindly saw her with us, and after careful examination confirmed our opinion. She was immediately placed in St. Luke's Hospital and carefully prepared for operation.

An abdominal section was made on the morning of February 26, with the assistance of Dr. Tupper, Dr. Ella Marks and Dr. Newmann, who administered the chloroform. At Dr. Tupper's suggestion the Trendelenburg position was used and found advantageous.

On entering the peritoneal cavity the tumor was found in size and situation as expected. It ruptured with the first careful manipulation, discharging dark blood and clots. The mass was freed from its many adhesions and tied off close to the right cornu with twisted silk, and the pedicle was covered with its own peritoneum by means of fine catgut. The cavity was flushed with pure hot water, and the abdomen closed with deep silkworm gut suture and a running catgut suture in the peritoneum.

The patient rallied nicely, but suffered greatly from nausea and vomiting for forty-eight hours, and occasionally for a day or two longer. However, she made a most satisfactory recovery; the wound was found united by first intention at the first dressing, a week after operation, and patient left the hospital at the end of three weeks.

The specimen is an interesting one. The large cavity which was ruptured in removal is found by the microscope to be the dilated tube. Connected with it is a smaller cavity packed with a hard blood clot, evidently formed by an early hemorrhage, but whether into the broad ligament or simply into another sac of the tube, has not been determined. A mass attached just below the tube so closely resembled a fetus that it was recognized as such by all; but it proved to be the ovary containing a large corpus luteum of pregnancy, as will be seen under the microscope.

The pregnancy was probably of six weeks' or two months' duration.

3424 Washington Avenue.

Feigning.

BY H. C. FAIRBROTHER, M.D.

Read before the St. Louis Medical Society, June 16, 1894.

Feigning, or malingering, as it is sometimes called, is as old as history, there being accounts of remarkable cases of this practice in the most ancient times that we have any record of. It is not confined to the human race, but practiced by many of the lower order of animals, as illustrated by the opossum, that will feign death to deceive its assailants.

There is no practitioner in medicine or surgery who has not, at some time, to deal with cases of feigning. But those who have the most to deal with this practice are superintendents of public hospitals, asylums and free dispensaries, medical officers of prisons and of the army, pension examiners, and surgeons connected with accident insurance companies or railway companies.

The motives for feigning are numerous; to attract attention, to excite sympathy, to obtain admission into a charitable institution or prolong one's stay in the same, to avoid entrance to prison or escape prison labor, to avoid attending court, either as witness or party to trial, to procure discharge from army or avoid conscription, or, which is probably more frequent than any of these, to procure pecuniary damages.

Feigning may appear in three different forms. It may be entire, there being no disease or injury and all the symptoms merely pretended; it may be partial, some disease or injury actually existing but all the symptoms exaggerated; or the disease or injury may be produced by the patient for the purpose of deceiving, as when pepper is used to irritate the eyes, caustics to mark the skin, or instruments to inflict slight wounds upon the body.

The diagnosis of feigning is often a matter of the greatest difficulty, one in which the nicest shades of discrimination are necessary. It is often traveling in that border-land between disease and health, where health puts on the livery of disease, and disease is sometimes masked in the rugged hue of health. But upon the medical man rests the obligation to make a correct diagnosis. This he owes to himself, to his profession, to the public and to the patient. If the person is feigning it is but justice that he be found out. Feigning is but a species of fraud, and the exposure of fraud is a public good. Therefore, when feigning is suspected, in order to make a correct diagnosis, every honorable means is justifiable. These embrace not only scientific investigation, as chemical and microscopical examination of the urine and sputum, the study of reflexes and the effects of electric and medicinal agencies, but also observations of a general character, and these sometimes conducted when the patient is not aware of it. If a little deception will aid in the desired result, this is justified in view of the end to be attained. If acting the part of the detective for a time will lead to valuable information, this is allowable on the same grounds.

Mistaken diagnoses in cases of feigning are especially humiliating to the medical man. A injured man presents his claim for heavy damages. He declares that he is a hopeless cripple. He presents certificates from his attending and consulting physicians and surgeons that his injuries are permanent, receives the amount claimed, and walks out of the office or the court-room laughing in his sleeve at those whom he has so completely deceived. Cases like this are of such frequent occurrence as to justify the adoption of every means possible in arriving at a correct diagnosis.

In the detection of feigning there are certain general rules which greatly aid in the investigation.

1. Moral Character.—In a case under observation where feigning is suspected, if upon investigation the person is found to be of bad moral character, if he is untruthful and a schemer and associates with people of this sort, that may be set down as supporting the theory of feigning.

2. Motive.—If, from the disorder complained of, any considerable gain is to accrue, such as pecuniary damages, excuse from prison work or the sojourn in a charitable institution, this may be considered as a part of the evidence of feigning.

3. Physical Condition.—If the person under inves-

tigation complains of some serious illness or injury that would naturally make its impression upon the physical condition, and if, at the same time, there is no appearance of this impression, but, on the contrary, the expression of countenance, the color of skin and general appearance indicate perfect health, this also should be considered as strong evidence of feigning.

4. Expressions of Countenance.—Very few people are experts in deception. The heart of man is naturally honest, and attempts to deceive are often betrayed by the expression of countenance. It is the desire of the eye to look up, but it is forced to look down by a guilty conscience. A person feigning will never look his examiner in the face and answer his questions clearly and squarely, but his countenance will be bent upon the floor and his answers will be guarded and evasive.

5. Want of Consistency.—The malingerer is not a medical man. He does not know all the symptoms that belong to a certain disorder. His ardor to learn all the symptoms connected with the disorder of which he complains often leads him into embarrassing situations. Thus, a man who had received a slight injury in a rail road wreck maintained that he was suffering from concussion of the spine, or railway spine as it is sometimes called. He was, of course, anxious to do his part in presenting all the symptoms supposed to belong to that hydra headed ailment. The attending surgeon, observing this ambitious disposition, remarked to a nurse, in the hearing of a relative of this man, that he would think it this disease but for the absence of one symptom—that the man could lie upon his back, while those suffering from this complaint are unable to do so. As was intended, this remark was duly conveyed to the patient, and upon his visit the next morning the surgeon found him lying upon his face and declaring that he could not turn upon his back without the greatest pain.

The diseases simulated are almost as numerous as the list of human ailments. There is scarcely a disease or injury, or symptom of disease or injury, that has not had its counterfeit. The disorders, however, which are most frequently simulated are pain, defect or loss of special senses, insanity, paralysis, stiffness of joints, and convulsions. The proper study of such a list of feigned diseases as this would consume entirely too much time for the limited space of one paper or one evening. I shall therefore conclude this paper with a brief study of the single subject of pain.

Pain is the stock in trade of the malingerer. It is the cheapest of his commodities. It is had with the asking. In its possession he feels secure of something that cannot be contradicted. It is hidden away; it cannot be seen, or heard, or touched, and if it is feigned, who can be the wiser? Here a mistake is often made. Pain is such a dreadful reality that it cannot be long hidden when it exists, nor successfully pretended when it is absent. Real pain, like murder, will out, and pretended pain will discover itself.

For the sake of clearness, the subject of pain may be divided into three parts. First, that form concerning which we depend entirely upon the patient's statement. Second, that which is elicited by physical examination, as by pressure and palpation. Third, that which is complained of upon motion of the body, chiefly about the joints. With regard to the patient's statements, the first rule above referred to, concerning moral character, is especially applicable. If the man is found to be untruthful about other things, it may be granted that he is untruthful about this. Another great aid in the study of this form of complaint is the expression of the countenance. The theory, that pain produces upon the face its typical expression is as old as history, and painters of all ages have aspired to reproduce this expression. They speak of the "lines" and "shades" of pain, the feigning of which would be an impossibility. If a patient states that all through the night he has been suffering and is still suffering, we naturally look to the facial expression for a confirmation of this statement. If none of the lines of pain appear we doubt the testimony. Another important point in statements about pain is the question of location. If the pain is pretended it will rarely ever be given a definite location. Any point that may be fixed upon by the examiner will be admitted to be the seat of pain; whereas, in true pain, such as caused by incipient abscess, there will be no question about locality, and the medical attendant will not be allowed to locate it at random.

In the second form of pretended pain, that which is elicited by physical examination, the same vagueness about location will usually be met with. But if the seat of pain complained of be finally located, if the examiner, unobserved by the patient, will produce a mark at this point and continue the examination, drawing the patient's mind away from the subject for a time, the point marked will be forgotten and he will allow any other point to be designated as the seat of pain. Another significant fact will be observed when investigating pain by physical examination. When true pain is produced the reflex nervous system is brought into action. If the foot be pricked with a pin, it will withdraw without a mental act. If pressure is made upon a part suffering from acute rheumatism or threatening abscess, there will occur an instantaneous recoil commencing at the part affected. Now, if the pain is only pretended there will be no reflex action. The movement that is made will depend upon a mental act, an appreciable time will intervene before this takes place, and the motion will differ in character. It will not be the instant recoil of the part itself, but is just as likely to be the violent motion of some other part of the body. The facial expression also will be out of harmony. The lines of true pain will be wanting, but the contortions about the mouth will be greatly exaggerated. As a rule, great contractions of the muscles about the mouth, as an expression of pain, may be looked upon as doubtful. Such faces are made only for appearance.

In considering that form of pain which is complained of upon movements of the body or limbs, the above remarks are equally applicable. But, in addition to this,

the patient must be kept under careful observation, and it may be necessary to conduct this observation at times without his knowledge. A man will sometimes appear to be unable to bear the slightest weight upon one of his legs when in the presence of the examiner, but, when unobserved, will walk quite readily.

Thus, the symptom of pain, that would seem to be the easiest of all for feigning, is shown by a little study to be open, in numerous ways, for easy detection.

The Dangers of the Long Rectal Tube.—The use of the long rectal tube in cases of obstruction, or supposed obstruction, of the bowel has never been looked upon with favor by good anatomists. The finding of the traditional needle in the haystack is but little more difficult than the successful maneuvering of the rectal tube through the twists and turns of the sigmoid flexure. The question of the value and safety of this tube having been asked of the *British Medical Journal*, the matter was referred to Mr. Harrison Cripps, who replied as follows to that journal:

"Traditions die hard, and notwithstanding the condemnation of the long rectal tube by Brodie, Treves and many other eminent authorities, I still find that in most cases of obstruction or supposed obstruction the tube has been introduced. Fortunately these tubes are fairly soft, so that in a capacious rectum, when they impinge and are arrested about opposite the promontory of the sacrum they simply coil up and do no harm. If stiffer ones are used the patient's life is placed in imminent risk. A patient at St. Bartholomew's Hospital was to be operated on for ruptured perineum. In order to increase the supposed efficacy of the injection, a quart of soap and water, with some ounces of oil, were injected by means of a long tube. The injection never returned. A few hours afterwards, owing to the acute symptoms of the patient, I assisted one of my colleagues in opening the abdomen. The soap and water and oil we found in the abdominal cavity, and a hole below a reduplicated fold in the upper part of the rectum. The patient died. The idea that these tubes can be generally passed into and beyond the sigmoid flexure is a pure delusion, save in the rarest circumstances As a means of diagnosis, or of treating stricture beyond the reach of the finger, tubes of any kind are absolutely useless. If a stricture is actually present it would be 100 to 1 against the long tube or bougie entering it, for it would almost certainly catch in the cul-de sac, generally caused by the invagination of the stricture. If a stricture be not present, the arrest of the bougie by the sacral promontory leads to delusive diagnosis. Brodie, in his lectures, alludes to a case in which a worthy practitioner had spent over 150 hours in dilating a supposed stricture situated high up. The treatment had extended over a period of a year. Brodie, who was present at the post-mortem examination, found there was no sign of a stricture, the bougie becoming arrested by a curve of the sacrum."—Columbus *Medical Journal.*

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The Ground Substance of Protoplasm and Its Modification by Life.

It must have occurred to most doctors that every action and every thought leaves its imprint, be it ever so small and difficult to detect, upon the protoplasm of the individual cell and will in some degree influence its physical and chemical properties. A rational or an irrational mode of living must therefore have its corresponding good or bad effects upon the individual and also his progeny as experience teaches. It is not impossible that some day organic chemistry will solve a problem which the greatest perfection in microscopy will not be able to solve, namely, changes in the protoplasm of certain cells in consequence of injurious influences. The exact analysis of any organic substance is beset with great difficulties and this is particularly so in the case of living protoplasm. Any progress in the recognition of ultimate changes, whether they are of an anatomical or chemical character, must be hailed with much enthusiasm by everybody that desires light upon ultimate causes and effects and the understanding of such changes must of necessity have a most important effect upon the treatment of disease.

Many investigators have been at work for the purpose of throwing new light upon the exact construction

and composition of the protoplasm of cells and among them Dr. Danilewski, of St. Petersburg, who delivered an address before a general meeting of the recent Eleventh International Medical Congress, held in Rome, entitled, "The Ground Substance of Protoplasm and its Modification by Life." The *British Medical Journal* has published the following abstract of the address, which, we think, will be of interest to our readers:

"The material basis of all vital phenomena, without exception, is the protoplasmic substance. This is the invisible source of the feeling of health. If its plastic action is manifest in the development of the embryo, on the other hand, this shows itself only indirectly in the phenomena of life. Its principal active principle is protoplasm, that molecular chemical complex which shows in its physico-chemical properties the features proper to the chemical complex in general. The protoplasmic complex is a whole, and not a simple mixture of its constituent parts. If the protoplasm is living it acts on an entity which does not allow its individual parts to be seen in the working of its vital activity.

"Albumin being the principal constituent of the protoplasmic complex, and in view of the differences in albuminous substances in different parts and of the forms of protoplasm, it can be understood that the quality of the albumin determines the kind and character of the vital activity, and that the phenomena of life depend, on the one hand, on the fundamental properties and the nature of the functions of the protoplasm, and on the other, on the chemical constitution of the albumin. The albuminous molecule is itself a chemical complex consisting of atomic groups which form series constructed uniformly, but yet distinct, one from the other. Certain albuminoid substances are particularly rich in a certain kind of series; others contain none of certain series. The richer the albuminous molecule is in atomic groups of various kinds, the wider and freer is the share it takes in the vital phenomena of the protoplasm; the more uniform the quality of the groups in the albuminous molecule the narrower and more restricted is the biological role of the latter. The incomplete albuminous molecules in superior organisms are derived from complete molecules. In the lower organisms there are no complete molecules analogous to the albuminous molecules of the superior protoplasm.

"A comparative study of the albumin of superior and lower organisms leads to the conclusion that in nature the albuminous substances are not formed all at once, and that the complete albuminous molecule of the superior protoplasm is the result of a philogenetic development parallel to the perfecting of organic forms on earth. In this development the albuminous molecule displays the faculty of accommodation. The external causes which bring about its complexity do not act directly on the albuminous molecule, but on the protoplasmic complex, the latter being the defender of the albuminous molecule, and at the same time the transmitter of external influences. The new atomic groups which finally have entered into the constitution of the albumin must, at the commencement of development, have been constituent parts of the protoplasmic complex, but their existence not being of a lasting character these new groups acquire permanent and biotic character in becoming a constituent part of the albuminous molecule.

"Protoplasm may differentiate itself into two distinct forms—namely, hyaline and "stromic." The former first receives the shock of external actions and in like manner its complex is first reconstituted under their influence, and its albumin is first invaded by the new atomic groups, whilst the stromic protoplasm follows the hyaline step by step in its development. The hyaline protoplasm keeps more feebly that which it acquires, whilst stromic protoplasm assimilates less readily, but keeps more persistently what it has acquired. The phenomena of heredity are explained by close connections gradually formed between these two forms of protoplasm and the external world.

"Civilized man uses alcohol so extensively, and has done so for so long, that one may with certainty affirm the existance of an alcoholized protoplasm in drunkards just as one finds morphinized protoplasm in cases of chronic intoxication with morphine. The existence of arsenic in the protoplasmic complex of arsenic eaters, consequent on the fact that they are incapable of subsisting normally without that element, can no longer be questioned. In these three facts we have the proof that man by introducing into his body stimulant, narcotic and alterative substances even to excess, becomes accustomed thereto to such a degree that without them his organism is not at peace. Hence, it follows that the complex of protoplasm and albumin is adaptable, that it is not incapable of being disturbed in its fundamental constitution and in its properties, and that it is reconstructed with difficulty. This, however, is not to be taken as meaning that such a thing never happens, and it does so with greater readiness in a regressive than in a progressive direction."

Adjournment of the St. Louis Medical Society.

The St. Louis Medical Society has adjourned for the season and a retrospect of the work done by the Society during the first half year of its present administration is a source of much satisfaction to its members. Innumerable specimens were presented and many valuable papers read and discussed, but in spite of the prosperous condition of the Society we are duty bound to lend an ear to some of its dissatisfied elements. Among the latter there are those that do not wish to have their work reported by the daily press, not considering the latter competent to judge between a paper of merit and a worthless one, that has possibly been written for the purpose of being discussed by the newspapers. Others again have expressed the opinion that if no reporters were present at the meetings, there would be fewer

specimens presented and thereby the crowding out of papers, announced on the regular programme, frustrated. That many carefully prepared papers have not been read in consequence of the time being taken up by the discussion of specimens cannot be denied and that some of the most esteemed members of the Society never attend its meetings for similar reasons is also a well-known fact. According to the statement of Dr. Frank Fry, Chairman of the Executive Committee, many members have of late positively refused to read papers as long as newspaper reporters would be present, and consequently Dr. Fry offered a resolution not to admit newspaper reporters to the meetings of the Society. The resolution was laid upon the table for two weeks, by a vote of six against five, but at the next meeting it was tabled indefinitely. Nevertheless, we are confident that if all the members of the Society were to vote upon this question, the great majority would vote against the admission of reporters.

CORRESPONDENCE

Description of an Old Time Medical Work.

Editor MEDICAL REVIEW.—The history of the absorbent system, containing the Chylography or Description of the Human Lacteal Vessels, with the different methods of preparing them, of discovering and injecting them, and the instruments used for these purposes.

Illustrated by figures by John Sheldon, Surgeon, F.R.S., Professor of Anatomy, Physiology and Surgery. London, 1784.

This old volume has the name D. Hosack written on the title page. It is dedicated to Sir Joseph Bank, Bart., President of the Royal Society, etc.

Then comes a long list of subscribers. Among them are:

Robert Adair, Esq., Surgeon to Chelsea Hospital and Inspector-General to the Army.

Sir George Baker, Bart., F.R.S., Physician to her Majesty.

William Broomfield, Esq., Surgeon to her Majesty's Household.

Richard Budd, M.D., Physician to St. Bart. Hospital.

John Beich, Esq., Surgeon Extraordinary to his Royal Highness, the Prince of Wales.

Denzil Bragg, Surgeon, Axminster, Devon.

Mr. John Crawford, Surgeon, Bardadoes.

William Denman, M.D., Teacher of Midwifery.

J. S. Haufman, M.D., Professor of Anatomy, etc.

Mr. John Harris, Army Surgeon.

Mr. George Hughes, Navy Surgeon.

Mr. John Jaffrey, Navy Surgeon.

Mr. John Neale Nott.

Antonio Sehapa, M.D.

James Simms, M.D.

Mr. Josiah Teed, Surgeon.

Henry Watson, Esq., F.R.S.

Mr. William Wheatley.

Thomas Webb, Surgeon.

This quaint old book has written on the fly leaf, "To Mr. Harwood, with the Author's Compliments." "D. Hosack," written on the title page.

The antiquity of it, as well as its text and context, will render it interesting to antiquarians and medical men generally.

This is my excuse for calling attention to it through the medical press. It has been presented to the Academy and may be found in the library there, by those interested in it.

WM. M. MCLAURY.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, June 16, 1894, the President, W. B. OUTTEN, M.D., in the chair.

* * *

DR. A. H. MEISENBACH presented a specimen of "Resected Bowel," removed on the same morning, being the prolapsed and irreducible portion of a scrotal hernia. The patient was a male, 46 years old, and the hernia about the size of a human head. The customary primary incision was made, from the anterior superior spinous process to the crest of the pubes and into the scrotum. The contents of the sac were found firmly matted together, so much so, that an incision supposed to have been made through the peritoneum led directly into the bowel. The cord and testicle, too, were firmly adherent to the prolapsed gut, so that they had to be removed, as their isolation was impossible.

Three modes of procedure suggested themselves as a relief for this condition. A separation of the agglutinated portions of bowels and their return into the abdominal cavity; the establishment of an artificial anus, and a total resection, or exsection of the prolapsed portion. The first was impossible, besides being a hazardous procedure, deaths having been reported which were caused by an interference with the circulation from suddenly increased abdominal pressure; the second was also inadvisable, as the opening would necessarily have been made in the portion of bowel extruding through the abdominal cavity. The total resection was therefore performed, and a lateral anastomosis established according to the method of Abbe.

In the portion of bowel removed were included 14 inches of the colon, the caput cecum, and six inches of the ileum. The suturing of the abdomen was done accord-

ing to the recently devised method of Bassini, the only variation being that the cord and testicle had been removed.

The objections to the use of mechanical contrivances in the establishment of intestinal anastomosis are: The liability of imperfect coaptation; the pressure necrosis produced being uncertain in extent and the contraction and stenosis liable to take place in what is primarily a small opening. The difficulties are overcome by the operation as devised by Abbe, although the length of time required to do this latter might be urged as an objection to it.

This operation was done at 10 in the morning, and at 8 o'clock patient was comfortable; pulse 90; temperature normal.

Dr. Spencer Graves said there are objections to both methods of procedure. In the Abbe operation there is a liability of puncturing the entire thickness of the internal walls, allowing an escape of septic matter through the needle puncture which would result in septic peritonitis. Then, too much time is consumed in performing the operation. The contraction and possible stenosis following the use of mechanical contrivances,and the pressure necrosis produced by them are properly urged as objections to their enployment, Murphy claims particular advantages for his button and, according to his statistics, his operation has been more successful than any other.

Dr. Laidley considered it a matter of skill of the operator, whether the lateral anastomosis of Abbe is performed, or a mechanical ring or button is employed. The former is certainly the preferable operation, but requires a great deal more mechanical skill and dexterity in its performance.

Dr. Meisenbach said that the various objections urged against the various operations for intestinal anastomosis are all well founded but the best argument for any procedure is when an operator adopts it in preference to another method of his own. This is what Abbe has done in adopting the form of lateral anastomosis in preference to his previously devised catgut rings. The element of time disappears in ratio to the skill of the operator. The mechanical contrivances have been discarded by European surgeons, although well known and extensively employed formerly.

* * *

Dr. Mary McLean read the clinical history of a case (See page 5) of

Extra-Uterine Pregnancy,

in which a diagnosis was made and an operation performed before the tube had ruptured. She also presented a microscopical section of a "Corpus Luteum" taken from the same patient.

Dr. Laidley said that although the case presents no extraordinary features it is one of those which demonstrate the advances made in the diagnosis and treatment of a class of cases which formerly remained undiscovered, and which invariably resulted fatally in consequence.

Dr. Outten considered this class of cases as evidence of the progress of our science, when they can be diagnosticated at such an early stage and result in complete recovery under the proper treatment. He expressed himself as particularly delighted to preside over a medical society, which has for a member a lady and a doctor as competent as the essayist.

* * *

Dr. H. C. Fairbrother read a paper (See page 6) entitled

Feigning.

Dr. F. R. Fry said that the most important point is not so much to determine feigning as we ordinary see it, as to determine between malingering and hysterical counterfeits of disease. In this class of cases the subject of pain comes up very prominently. These patients certainly suffer from pain, whether we call it psychical or genuine pain, and yet there is no way to prove or disprove its existence. In this question of feigning, traumatic neurasthenia forms one of the most important subdivisions. Here, too, the question hinges largely on the point as to the existence of pain; and we all know how difficult it is, especially in damage claims on account of railroad injuries, to make a diagnosis and, having arrived at that, to convince the jury and the members of the profession who happen to be on the other side of case, of its actual existence and upon what we base our diagnosis.

Dr. Bremer said this subject is an extremely vast one; one in which no definite conclusion has as yet been arrived at, as is proven by the widely different opinions of authorities and by previous discussions of the subject. If it were recalled really as simple as Dr. Fairbrother would indicate, we would not have as much difficulty in settling cases before the courts; we would not have our capacity as experts subjected to so much doubt, and ourselves to do so many insinuations; we would no longer be stigmatized as liars, blank liars and experts. There is an honest difference of opinion among experts in almost every damage case.

So far as malingerers are concered, there is a wide difference of opinion among the medical profession. It is often the result of personal optimism or pessimism; some men naturally look upon human nature as a mass of depravity, while others consider it a conglomeration of honesty. This difference of opinion was illustrated at the International Medical Congress at Berlin, where the subject was discussed by the most eminent neurologists. Some contended that in cases which come up in court for railway concussion, at least 75 per cent are malingerers, while others said there were no more than 6 or 7 per cent.

The speaker believed that this question is often a local one; that is, in localities where such cases as psychical hysteria or neurasthenia occur, people will graduate in all the symptoms, and from the contamina-

tion a great many malingerers are created. The publication of books and pamphlets on the subject has done a great deal to educate people in the symptomatology. Then we are more susceptible to nervous influences than were our forefathers. There is no doubt that a great many have been fooled by malingerers; even such men as Charcot have been misled.

The subject of pain is an important one, there being subjective and injective pain, as a rule the latter. True pain may be determined by two tests. The one consists in making firm pressure on the spot which is claimed to be oversensitive. As soon as the spot is pressed upon the heart beats increase to 160, 170, or even 195 per minute. This is an unmistakable sign, and, as far as the speaker could recall, could be simulated only in one case, that of a Russian student who could cause his heart to run up to 200 beats. Another test is the dilatation of the pupil resulting from pressure upon a painful spot in nervous people.

So far as the reflexes are concerned, they become of value in proportion to the versatility of the examiner. A man may be a very good doctor and still fail to accomplish anything in the examination of a malingerer. A detective, as a rule, would be of much more value in detecting a malingerer, as would also one malingerer be better able to find out another.

Dr. J. K. Bauduy had had successes and failures in the study of malingerers. He referred particularly to two cases occurring in his practice, which had attacted universal attention. The first patient had been referred to him by Judge Primm of the Criminal Court of this city, and the patient was known as General Neff. The doctor had him under observation at the St. Vincent's Insane Asylum for over three months, and was compelled to acknowledge at the end of that time, that he did not know whether the patient was sane or insane. He was taken from the asylum to the penitentiary where he served a term of ten years, and while there confessed that he had been malingering and boasted that he had fooled all the doctors who had examined him.

The other case was that of Willie Meyer, a lad of twelve years, who was forcibly placed upon the seat of a dog catchers' wagon and forced to ride several blocks, on account of fractious conduct, stoning and cursing the dog catchers. In consequence of this treatment he was supposed to have suffered such a severe nervous shock as to produce epilepsy and hydrophibia.

The speaker, together with Dr. Fry, made a careful examination of the case, and, although the boy was an acute malingerer and played his part well, it was soon determined that there was not a single symptom present of mysophobia (a disease the possible existence of which had been suggested); there was no psychical or physical evidence of hydrophobia or epilepsy to be found, nor did the symptoms indicate the existence of any known disease. During the feigned attack conciousness was not lost, and the boy emitted sounds like the bark of a dog, a symptom which can no longer be recognized as belonging to a true case of hydrophobia. During the examination Dr. Fry put his finger into the patient's mouth and was bitten by him. The patient was rewarded with a slap and did not repeat the performance.

The dog catchers were acquitted, and three or four weeks later, while at the International Medical Congress at New York, speaker read a communication from the defendants' counsel, in which it was stated that the boy had been watched and that he had not had another attack since the trial.

Dr. Bremer asked whether none of the neurologists present had made a diagnosis of hysteria produced by fright.

Dr. Fry replied that the boy produced such a remarkable demonstration, that the whole question in the case was, whether it was a case of malingering, or whether it was an hysterical condition. After a very close examination it was decided that the demonstration was not of an hysterical character, although the performance was remarkable, considering the boy's age.

ABSTRACTS

MEDICINE.

Treatment of Fibroid Lung Diseases.—The *Lancet* (London) publishes a clinical lecture on this subject by the late Sir Andrew Clark, from which the *American Lancet* quotes as follows:

First, there is the food. The great difficulty that you will have to contend with in these cases is to avoid giving as much food as (not the patient, but) the patient's friends wish you to give him. I cannot pretend to say that I know the secret, the permanent and just secret, of the exact amount of food to be given to a patient, but I can give you a general statement which I think will help you in the exercise of your treatment of such cases. And it is this; Let the food be divided into four meals a day. Let it be simple, fresh, nourishing, digestible; and it may be arranged somewhat in this fashion: Breakfast, 8 to 9; bread and butter with eggs or fish, or fat—not lean—bacon, for cured and preserved things are not good for these patients; and, with that, half a pint of tea or coffee made with milk. Perhaps you have not been accustomed to hear of tea made with milk, but I can tell you that it is very nice and very nourishing, and almost all of these fibroid cases do well with that. In almost all of them the general nutrition is impaired. Four to five hours afterwards—if you have breakfast at 8 A.M. or 9 A.M.—1 P.M. to 1:30 P.M., should be the dinner hour; the patient should have meat, bread, potatoes, vegetables, and either milk pudding or, if he can bear it, a little cooked fruit. At 4 P.M.

or 5 P.M. bread and butter and tea or coffee, made with milk. At 7:30 to 8 P.M. supper—a light meal of the same kind as the dinner. And nothing more. There must be no "betweens."

Secondly comes the point of alcohol, next in importance to food. I venture to say that if the patient is equally as well without alcohol it is much better that he should be without it; but I also venture to say that it is certain that some patients suffering from fibroid phthisis may be greatly benefited by small quantities of alcohol given at the right time. What is the right time? It is certainly not between meals; it is certainly not on an empty stomach; and I entreat you to avoid either giving or assenting to the giving of alcohol in any form under such circumstances. For these cases give the alcohol which is required at dinner and at supper, and at no other time; and in these cases, also, be sure that you give no more than is really helpful to the nutrition of the patient and to the maintenance of his comfort and his general satisfaction. If you give an amount of alcohol which disturbs digestion, which disturbs the cough, dries the mouth, flushes him, and makes him uncomfortable, the smallest amount of discomfort brought about in this way becomes a great discomfort after a little time; for here I must say what I have so often said to my pupils in the London Hospital—it is not so much the big things of life, it is the little things of life that make and unmake health.

Thirdly, in addition to the alcohol, comes the clothing, and the general direction is that the clothing should be warm and changed frequently, not worn for a month for fear of catching cold, but changed at least every week.

Then comes exercise; and there are two kinds of exercise to be taken by these patients. There is general exercise, which is more or less needful to all persons—the exercise which enables the body to get rid of its dust and ashes. You know that every act of life produces a certain amount of waste which is required to be carried out of the body by the skin, the lungs, and the kidneys. Furthermore, the retention of that waste becomes a most fruitful source of manifold disease; and people who live sedentary lives, and delicate people, run the risk of keeping this waste stuff in their bodies. For a patient with fibroid disease it is necessary to have daily exercise—half an hour twice a day is no doubt enough for the mere purposes of life. But there is another kind of exercise which is desirable and sometimes most helpful. You know that whenever fibrous tissue is formed it tends to contract and to go on contracting indefinitely. You may have seen a child who has had the arm burned: as it heals and is replaced by fibrous tissue it contracts, and after a month or two you see it very much contracted. This is exactly what takes place more or less everywhere else. And when once you see the chest sink in, and watch it, you will see that the contraction goes on and on, however slowly it may be. Now there is a kind of exercise which goes far to prevent that—which does, indeed, sometimes prevent it entirely—and that is the kind of exercise which gently, but more or less continuously, expands the chest. The method I use for that was formerly known here as the "stair cure." I used to require the patients, either with an old pleurisy or with a fibroid lung, to go upstairs once, or twice, or many times, according to the state of their strength and capacity for adjustment to this increased exercise. I have seen the chest enlarged about an inch within a month of beginning the stair cure. But remember also that it requires care. It used to be thought that hemoptysis was present only in true tuberculous cases. But I have told you, and you must accept it on my evidence, that hemoptysis occurs in these fibroid cases. You are to be wary, therefore, not to push these cases too hard; not so to push them as to bring on hemoptysis, because, although the disease does not occur on the blood-vessels as true tuberculous disease does, yet it destroys the elasticity of the blood-vessels and makes them friable.

Another point about management of these cases is occupation. If people are wonderfully well off in life, and a member of the family falls sick or becomes delicate, they are disposed to take him away from work, on the ground that work is bad for him. I do not agree with them at all. I think that is about the biggest mistake that you will have to encounter. *Labor vitæ vita est.* Labor is the life of life. And especially is it the life of life to the delicate. And I can say to you from a considerable experience of tuberculous pulmonary disease that those who have done the best have usually been those who have occupied themselves the most. The highest life, even with a delicate organ, lies in its discharging its functions.

The next point is early hours. That is a very important thing, and many of these rules apply to chronic disease. Encourage your patients to begin early in the day, with an 8 o'clock breakfast if they can. They will find that their occupation, especially if it is mental occupation, will be infinitely better done at that time. Let them go to bed before 11 P.M.

Then comes tranquility of mind. Try to help your patients to exercise their wills in regard to this, for will counts for something in securing tranquility—to accept things as they are and not to bother about yesterday, which is gone forever; not to bother about to-morrow, which is not theirs; but to take the present day and make the best of it. Those affectionate women who will continually peer into what lies beyond, never have any present life at all—they are always grizzling over the past or prying into the future, and this blessed to-day, which is all that we are sure of, they never have.

Another point of treatment is to correct constipation. Frequently the best way to treat constipation is to let it alone. Nature, if you will behave rightly in all other things, will assert itself and bring about a regular action of the bowels. You cannot say that in these fibroid cases. There is a back tide obstructing the free current of blood in its passage through the lungs. The liver gets full, and also the veins of the stomach and

bowels, and there will be a greater or less tendency to abdominal and portal plethora, which must be checked, else digestion will be disturbed, nutrition impaired, the general health will get out of order, and the patient may become tuberculous. Keep up the general health in order that the patient may resist the evil consequences of the fibroid disease.

Opium with Calcium Chloride as a Hemostatic.—The *Indian Med. Rec.* publishes an article on this subject by Dr. William Huntly, of Kotah, who has used and tested the value of this combination in different kinds of hemorrhage. He cites the following cases as being the most important examples of the various uses to which it may be put: A man came to him on the morning following the extraction of a lower molar tooth. The bleeding had been very severe, and blood still flowed from the gum. The author stuffed the cavity with lint soaked in liquor ferri perchloridi, but this did not stop the bleeding. The man was very weak. Remembering the effect of opium, he gave him a full dose of the tincture, and in less than a minute the pupil contracted and the bleeding stopped. The patient was then ordered to take 20 grains of calcium chloride in an ounce of rain water every 2 hours until he had taken 2 drams. The bleeding never recurred. In another case, after the extraction of a tooth, the bleeding was arrested by the administration of opium, but returned on the following day, when the author gave the patient calcium chloride, and by evening the bleeding had stopped. In this case the use of calcium chloride was continued for three days. In the third case vomiting of blood had gone on all night, and every native remedy had been tried unsuccessfully. The author gave some soap pills, and, as the patient was very anxious and restless from the loss of blood, he told him the bleeding would not return after swallowing them. This was somewhat hazardous, Dr. Huntly remarks, but the diagnosis was clear that the hematemesis was due to an irritant powder swallowed by mistake. After using other measures and calcium chloride, there was no recurrence of the bleeding.

In a case of severe epistaxis the same measures had proved effectual without resorting to plugging. In cases of hematuria, in the author's experience, the use of opium has not been successful. In these cases, he says, the diagnosis is often obscure, and the practical value of opium in cases of uremic coma, in which it re establishes the flow of urine, leaves the question of the mode of action of the opium on the kidneys still a subject for clinical investigation. In his cases opium was given to stem the bleeding for the time, and calcium chloride seemed to justify the statements put forward on theoretical grounds, for its promoted coagulation. Dr. Saundby, he says, has obtained good results in a case of purpura hemorrhagica from 6 grain doses of calcium chloride repeated every 2 or 4 hours. Dr. Huntly thinks better results are to be obtained from the combination than from either drug alone, although opium by itself has often proved successful, as Nature mends the broken surfaces while the opium is exercising its restraining influence; but when calcium chloride is added, Nature's efforts are supplemented. Opium acts on the smaller arterioles and capillaries, while the calcium chloride acts through and on the blood, and the combination is all the more valuable because their spheres of action do not clash. As a combination, he thinks that calcium chloride and opium should be found superior to lead and opium.

Causes of Sexual Dibility.—Dr. F. R. Sturgis gives the following summary of his views at the termination of a very instructive paper:

1. That the cases of sexual debility which are marked by imperfect erections and by premature emissions, are usually, if not entirely, due to hyperesthesia of some portion of the urethra.

2. That masturbation has very little, if anything, to do with it, beyand the fact that if indulged in to excess, it may induce a tendency towards this hyperethetic condition, but this is no more marked in masturbators than it is in those persons who indulge to excess in the venereal act.

3. That organic stricture has little, if anything, to do with it; but that associated with this hyperesthetic condition there is an irritable condition of the canal which produces spasmodic contractions of the urethra upon attempts to pass instruments, oftentimes during the first act of micturition and at the time of connection.

4. That varicocele plays no unimportant part in these cases.

5. That neuralgia of the testis, if a cause of this disease, induces it merely as a secondary consequence to the pain which is one of the distinguishing features of this disease.

6. That tuberculosis, syphilis and gonorrhea may also play their part and should all be reckoned with in summing up the causes which may induce this peculiar and depressing condition of affairs.—*Gaillard's Medical Journal.*

The Antiseptic Power of Ichthyol.—From interesting bacteriological researches which he has carried on in the hygienic institute of the University of Greifswald, Abel (*Centralbl. f. Bakt. und Parasit.*) deduces the following conclusions concerning its antiseptic and bactericidal power:

1. The ichthyol preparations—ammonium ichthyol and sodium ichthyol—are capable of killing, in weak solutions and short time, the streptococcus pyogenes and erysipelatis. The working of the different preparations is just about the same. In suppuration from these bacteriological sources, ichthyol can be used with good results, as has been already shown by actual experience.

2. The staphylococcus aureus and albus, the bacillus pyocyaneus, bacilli of typhoid, ozena, and anthrax, the spirillum cholerae Asiaticæ, possess a greater or less resistance to ichthyol, that in certain cases is so marked

that pure ichthyol must remain on them for hours before the organisms in the cultures are killed. This is not, therefore, the most useful antiseptic for these organisms.

3. Diphtheritic bacilli, in fresh colonies, were killed by weak solutions of ichthyol, while further developed colonies were overcome with greater difficulty. Therefore, although ichthyol is not useful in the therapeutics of diphtheria, it can be used in prophylaxis both as gargles and in internal medication.

4. Ichthyol has done good service in the treatment of typhoid and ozena by making the irritation less harmful. It is, therefore, not impossible that also the other infectious diseases mentioned in paragraph 2 may be favorably influenced by ichthyol, whereby, although we can expect little from its antiseptic power, its chief influence may be hoped for in its action on the system.

5. It is recommended that ichthyol be employed only in substance or in a fifty per cent solution, and where greater dilution is used only with greatest precautions. Weak solutions may contain pathogenic spores, as, for example, staphylococcus aureus, even for a long time, and one must run the risk of reproducing the disease by its use. Weak solutions that have been used before must be sterilized before they are used again, by heating, which can be done without injury to the antiseptic power.

SURGERY.

Nephritis in Its Surgical Aspects.—Dr. E L. Keyes (*Amer. Jour. Med. Sci.*) discussed "Nephritis in Its Surgcial Aspects" before the Congress of American Physicians and Surgeons at the meeting held in May at Washington. The paper is replete with information of a valuable character. There are two most important points dwelt upon at the close of the paper—points that should be carefully considered by every physician in the treatment of these cases. He says: I cannot terminate this study without here laying emphatic stress upon, and calling especial attention to, the value of abundantly flushing the urinary passage with bland mineral waters of the diluent variety, as a means of flooding out both pus cells and micro organisms mechanically in many forms of chronic suppurative disease all along the urinary tract.

I know of no one single agent that possesses so much power for good. The enemy is decimated by this method of warfare, and can be taken at a disadvantage. I refrain from speaking the names of the mineral springs that possess this power—and there are many of them—because the commercial spirit of today prostitutes such utterances.

The character of the mineral ingredient in the spring is not material. All that is required is that one may be able to stomach the water freely—to drink a gallon, two gallons a day, or more, and that the water shall not affect the bowels.

A number of such waters exist. Distilled water does not do the work, nor does rain water. Ordinary clear spring water fails. In selecting a mineral water, it is only necessary to find a cheap one that may be consumed in vast abundance without a feeling of repletion—one that will pass rapidly through the kidney, having no influence upon the individual other than the diuretic one.

And, in closing, I wish further to emphasize two prognostic points; one is the common error of believing that the presence of pus in the urine is capable of accounting for a considerable amount of albumin. One constantly hears this expression: "Albumin in the urine accounted for by the pus." Surely this is true of a trace of albumin—but only of a trace. An admixture of blood with the pus, or of blood serum coming from an excoriated tumor in the bladder, or from an ulcer—this will account for albumin in quantity; but when there is no tumor, no stone, no ulcer in the bladder, there may be very considerable amounts of pus with barely a trace of albumin, and, if under such physical conditions the amount of albumin be relatively large, it usually means pyelitis—implication of the kidney in interstitial or parenchymatous change, and by so much becomes a factor of importance in prognosis. Anything over one-half of one per cent by weight of albumin in urine, however purulent—if there be no blood in the specimen, no tumor, no stone, no ulcer in the bladder—becomes a factor in the question of prognosis when the point of the expediency of an operation comes to be considered. The cases may be assumed to have already reached a degenerative stage, and the chances of lighting up surgical kidney by operative interference below are relatively great.

He summarizes briefly the following conclusions:

1. Healthy urine is sterile.

2. Purulent urine is always microbic.

3. Microbic infection takes place from within the body by a number of methods in the course of disease; it is often brought about by instrumental maneuvers on the part of the surgeon.

4. A healthy organism and vigorous bladder may cope successfully with microbic invasion, and rid itself spontaneously, or with a little aid, of all damage arising therefrom—showing little or even no inflammatory response.

5. A suitable condition of the patient's soil is essential to the propagation and perpetuation of inflammatory phenomena upon the urinary tract—after microbic invasion.

6. The condition, intensified by traumatism and physical weakness, notably of the degenerative variety, is most intense when there is vesical distension with atony, and when the ureters are dilated, and the kidneys involved in the changes incident to tension below—namely, atrophy and sclerosis above, with or without surface catarrh.

7. Under these circumstances surgical pyelonephritis

is most likely to declare itself as a result of microbic infection from below (occasionally from above)—in the course of supurative disease or after operative interference.

8. Asepsis, antisepsis and sterilization of urine are ends to be aimed at in genito-urinary surgery—but, like all other greatest goods, not yet attained in ferfection. Much, however, can be done by local means in a prophylactic and curative way, little by internal medication, and possibly as much or more than by any other means by flushing the urinary passages with natural mineral waters.

Controlling the Circulation Through the Abdominal Aorta.—The following method of controlling the circulation through the abdominal aorta has been applied in practice for over fifteen years by Macewen, of Glasgow, and he found it simple, always ready, easily applied and efficient.

The patient lies on his back on the table; the assistant, facing the patient's feet, stands on the left side of the table in a line with the patient's umbilicus. He then places his closed right hand upon the patient's abdomen, a little to the left of the middle line, the knuckles of the index finger just touching the upper border of the umbilicus, so that the whole shut hand will embrace about 3 inches of the distal extremity of the aorta above its bifurcation. The assistant then, standing upon his left foot, his right foot crossing his left and resting upon the toes of the right—an attitude commonly assumed by public speakers—leans upon his right hand and thereby exercises the necessary amount of pressure. With the index finger of the assistant's left hand, the weight necessary for the purpose can easily be estimated by the effect produced upon the flow of blood through the common femoral at the brim of the pelvis. Whenever the flow of blood through the femorals is absolutely arrested the abdominal aorta is sufficiently controlled and no further weight ought to be applied. As the abdominal aorta sometimes bifurcates higher than usual, before the operation is commenced a trial of the effect of the pressure at the part selected ought to be made, testing the result of pressure on both femorals. When both are equally controlled the bifurcation occurs below the point pressed on; when only one is controlled the hand requires to be placed on a more proximal part.

As there is no direct muscular effort required in maintaining the pressure further than the preservation of the equilibrium, the position can be maintained by the assistant without undue strain on his part, and without shifting his hand, for at least half an hour, a time amply sufficiently for the performance of most operations regarding the control of the circulation through the abdominal aorta.

Among the cases in the author's practice in which the abdominal aorta was thus controlled were disarticulations at the hip joint, amputations at the upper third of the femur, large pelvic vascular tumors, intra-pelvic hemorrhage, and traumatic hemorrhage from the external iliacs; when the control of the circulation was absolute. In the amputations of the hip none of the patients lost from the proximal side of the cut vessels more than a couple of ounces of blood, and that only from the oozing of the general surface; there was none from the main vessels. In amputations also, after the main vessels were ligatured, the assistant could, by a slight momentary relaxation of the pressure, "show" the position of any hidden or retracted vessel without altering the position of the hand relatively to the aorta. This form of pressure would be equally valuable for uterine hemorrhage.

There is one point to be guarded against. Should the patient vomit or cough violently the pressure would require to be increased, as otherwise the muscles in the abdominal wall are apt, during the strain, to elevate the hand from the aorta. The operation during vomiting might be postponed for a few minutes while local pressure is applied.—*Annals of Surgery*, January, 1894.

The Etiology of Peritonitis from Perforation.—Barbacci (*Centralbl. f. Allgem. Path. iv B.*, No. 19) has studied the subject of peritonitis from perforation in 14 cases, and has supplemented his work by experimentation on animals. The conclusions he has been able to form up to the present are as follows:

1. Cultures made from the peritoneal exudate in cases of perforation peritonitis in man furnish usually only a single variety of organism—the bacterium coli commune. Occasionally, however, diplococcus lanceolatus capsulatus (Fraenkel) can be shown to exist in the exudate by inoculation of mice and rabbits.

2. By artificial perforation of the intestine in the dog an affection precisely similar to that witnessed after perforation in the case of man may be induced.

3. In both man and dog only one organism, B. coli, is found in cultures from the peritoneal exudate, although the latter may be shown to contain the most varied organisms.

4. After extravasation of fecal matter, the various bacteria therein contained develope equally with B. coli during the early stages of inflammation which is induced. But subsequently they die, whereas B. coli continues to thrive, and thus is susceptible of further cultivation.

5. No efficient cause for the death of these microbes can be assigned. Experiments do not support the theory that they succumb to B. coli in the struggle for existence.

6. In a number of cases one finds B. coli in the heart blood of persons who have died of perforation peritonitis. In others it is not to be found there; and this, coupled with the fact that it is absent from the blood of the dog when the necropsy is performed shortly after death, renders it probable that, in the first-mentioned cases, the entrance into the blood stream took place post-mortem.

7. The diploc. lanc. capsulat. is never found in the exudate in the case of the dog; and it is also absent in

many of the human cases, one may conclude that this organism does not play an important part in the patho genesis of perforation peritonitis.

8. Although B. coli is the only organism which can be cultivated out of the exudate, it cannot be regarded as the actual cause of the peritonitis.

9. As regards the course and termination of the disorder, much depends upon the amount of time which has elapsed since perforation took place. If the aperture of communication can be closed, inflammation of the peritoneum may be checked, even though far advanced, and complete recovery will then be secured.

10. The intestinal gases which pass into the peritoneal cavity with the feces play a not inconsiderable part in originating and perpetuating the peritoneal inflammation.

11. The latter is due to two co-operating causes, each of which is by itself inoperative, namely, the extravasation of feces and of gas, and the development of the germs contained in the former. The inflammation is perpetuated by the continuous irritation of the extravasated matter.

12. Death in cases of peritonitis from perforation is due to an intense intoxication of the organism, which results from absorption of the fluid and gaseous contents of the bowel, and of toxic bacterial secretions.—*British Medical Journal*, Dec. 23, 1893.

Case of Epileptiform Trigeminal Neuralgia Treated by Horsley's Operation for Neurectomy of the Inferior Division of the Fifth Nerve.—Mayo Robson (*British Med. Journ.*) reports a case of a publican of the age of 60, who suffered for 15 years from severe agonizing paroxysms of pain shooting down the right side of his face in the course of the inferior dental nerve. The paroxysms only lasted about half a minute, but recurred generally about every half-hour or at longer or shorter periods, and were brought on by eating or at times even by talking. He had his teeth removed on the advice of his doctor, and took various medicines at the hands of several medical men, without any real relief. Seven years ago Mr Robson divided the inferior dental nerve from the inside of the mouth, which operation completely relieved him for 2 years. The attacks then recurred after exposure to cold, and soon became as severe as before. He was readmitted into the infirmary, when the lower jaw was trephined by Robson opposite the last molar tooth, and half an inch of the right inferior dental nerve removed, giving complete relief for 4 years, or until 8 months ago, when the attacks returned after exposure to cold and damp.

He was readmitted January 26, 1892, suffering from severe paroxysms of pain in the right side of the face, not only shooting down in the course of the inferior dental nerve, but radiating all over the right side of the face. They lasted about 20 seconds, occurred on an average every quarter of an hour, and were brought on by eating and talking.

In the early part of February another operation was performed. Incision was made a little above the upper border of the zygoma, extending forward for about an inch and a half, another downward from this behind the ascending ramus of the jaw, and another from the angle of the jaw along the lower border for about an inch. The flap thus marked out was reflected with the subjacent fat; the branches of the seventh nerve and the parotid duct were exposed, and the interval between them defined. The fascia was then divided, the gland pushed aside, and the masseter muscle exposed. The fibres of the masseter were divided transversely, so far as they were in the way, and retracted. The periosteum was then raised from the subjacent bone, the sigmoid notch and its boundaries well defined, and all bleeding stopped. A 1-3-inch trephine was used, and a piece of bone taken out of the jaw just below the notch, so as to deepen it; a second piece was then removed, and then a third, and on it was found the groove for the entrance of the inferior dental nerve. On sponging out the cavity and getting the wound as dry as possible, the nerve could be seen lying at the bottom.

An attempt was made to ligature the internal maxillary artery, but, on account of its great depth, this was found impracticable, hence pressure-forceps were applied and left on. It was not necessary to divide any extensive portion of the internal pterygoid muscle. The nerve was grasped with a pair of pressure forceps and drawn downward, then a piece 3 8 of inch in length was removed from just beyond the foramen ovale. The wound was well washed out with a hot lotion (1 to 4000 perchloride of mercury solution), stitched up with silkworm-gut above and below, and left open in the middle for the forceps. Stitches were inserted into the middle of the incision, but were left untied until the clips could be removed. The wound was dressed with cyanide gauze and antiseptic wool. The pressure forceps were removed the next day, when the loose sutures were drawn up and knotted. The stitches were removed on the tenth day, and the patient returned home on the twenty seventh day quite well, having had no return of pain since the operation, the parts supplied by the inferior division of the fifth nerve being devoid of sensation.

Recent Views on the Pathological Anatomy of Tabes.—Until recently the general view of tabes was that it was a systemic disease of the posterior columns of the cord. Now, there was a change in views, those of latter years tending to support some of his own ideas advanced three decades ago. He referred to the work of Redlich, who came to the conclusion that the posterior columns had no proper fibers, but were solely composed of the fibers of the posterior roots, and that this was the reason why the anatomical process in tabes had its starting point in the posterior roots. In this way the author was distinctly opposed to the view of systemic disease. He stood upon the standpoint of

Leyden, who was the first to emphasize the importance of the posterior roots for tabes. In the commencement of the present year Leyden's participation in this had been confirmed by two neurologists in Paris, Pierre Marie and Dejerine. The first in his work on diseases of the spinal cord had given a very comprehensive and thorough chapter on tabes that contained all the pathological material, at least the physiological and clinical He said it was unjustifiable according to the present standpoint to attribute so much independence to the posterior columns that they could become diseased pri marily; they became diseased only when cut off from the trophic center, and these were to be sought in the spinal ganglia. There were also peripheral ganglia, to which he attributed degeneration of peripheral nerves. After the appearance of this book, M. Dejerine gave an address on the pathological anatomy of tabes. He came to the conclusion that the degeneration of the posterior column in tabes was a secondary one, corresponding to the disease of the posterior roots. The speaker (Prof. Leyden) ascribed the first discovery of this fact to Vulpian, and thought this new revolutionary idea would at first meet with opposition, but he was pleased to be able to confirm that it had already been accepted by both German and French authors, or as it appeared, they had both arrived at the idea independently of each other, whereupon M. Marie had replied that it was Leyden who first pointed out the importance of the posterior roots. This view had first been given expression to in 1863, and had never been withdrawn; on the contrary, it had in 1888 been again expressed more pre cisely in connection with his anatomical and physiological works. From this it was concluded that the posterior columns were formed of fibers springing from the posterior roots, or were commissural fibers, and if it could not beproved that they possessed no other fibers, there were no facts to show that other fibers passed into them. Tabes, therefore, developed from the periphery, for which proofs should be forthcoming.—Leyden, *Med. Press and Circ.*

Resection of the Cecum.—Sendler (*Munch. med. Woch.*) reports the following case: A girl, aged 22, had suffered from constipation for some time past. Five months ago she was suddenly seized with severe pain in the right iliac fossa. She had to keep her bed for three weeks, but there was no fever or vomiting. Four weeks later she had a second attack, and later two more. A tolerably hard swelling was felt in the right iliac fossa, which under an anesthetic was found to have a smoth surface, and seemed to be adherent to the abdominal wall. The diagnosis lay between malignant disease, perityphlitis, intestinal tuberculosis, or some disease connected with uterine appendages. The first named appeared the most probable, but the age and the good condition of the patient were against carcinoma. A vertical incision was made over the swelling. The cecum, obviously transformed into new growth, was found adherent to the abdominal wall. It also involved a portion of the colon ileum, and adjacent mesentery. The whole growth was extirpated, the ileum being implanted into the colon after the manner of pylorectomy. The parietal peritoneum was so stitched as to make the site where the tumor was adherent extraperitoneal. The subsequent course was very satisfactor; she was up in three weeks, and left the hospital a week later. Four and a half months afterwards she was in perfect health, the bowels acting once or twice a day. The growth had started in the ileo cecal valve, and was a carcinoma.

The Diagnosis and Operative Treatment of Solitary Hydatid Cysts of the Spleen.—After a careful discussion and report of a case operated on by himself, and a study with a summary of sixty-six cases, Trinkler (*Revue de Chir.*) comes to the following conclusions:

The facts cited speak clearly in favor of operative intervention in the treatment of hydatid cysts of the spleen. This intervention should have for its purpose the discovery of the cyst. Laparotomy, in the full acceptation of that term, should be employed—that is to say, with all the variations proposed by Messrs. Volkmann, Lindemann, Laudau, Sanger, etc., accommodating itself to the peculiarities of each cyst.

It is difficult to judge in theory of the merits or demerits of operative procedures, for they all have their good points. There are cases in which Volkmann's operation is apparently less dangerous; nevertheless, when the tumor is small with thick walls and few adherences, one can, without risking much, operate after the method of Lindemann, Sanger, or Pozzi. The last method is the ideal, as the cyst is removed entire.

As a general rule, the incision should be as long as possible; it never does any harm, especially if one desires to employ Volkmann's method.

Possibly one might have to put a couple of stitches more at the top and bottom of the incision at the end of the operation, but it will give the chance to explore all parts of the tumor, to determine its boundaries, its pedicle, and, in short, one will see the actual condition of the organ, a most important factor in planning the operation. As Koenig says, before all one must "see," and this is only possible by a free incision. Consequently the first incision is exploratory and on it depends the choice of operation.

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SPOKANE, WASH., March 1, 1894.

COOPER PHARMACY CO.—Dear Sirs: I must say I like your preparations, especially your White Pine Expectorant and your Valerianate Sparteine Compound, the latter for relief of Asthma (I might say cure) is far ahead of anything I ever used, is prompt and so far in the case I used it on, there has been no return. I shall have my druggist keep it in stock for my use. R. S. HARVEY, M.D.

NOTES AND ITEMS

The Kansas Medical College proposes to have a new building.

The Czar and the Next International Medical Congress.—The Czar of Russia, who has from the first shown great interest in having the next International Medical Congress meet in Russia, has signified his intention of contributing fifty thousand rubles toward the expenses of the meeting.—*Med. Record.*

Professor Czerny has, it is stated, declined the offer of the chair of surgery in the University of Vienna, made to him by the Austrian government. It is believed that the reason for his refusal to accept the succession of his old master, Billroth, is the inadequacy of the laboratory and teaching equipment in the Allgemeines Krankenhaus. Not long ago Professor Erb, a colleague of Professor Czerny's at Heidelberg, also declined the offer of a chair in the University of Vienna for a similar reason.—*Med. Record.*

The "Slanting Handwriting," so dear to our grandmothers and grandfathers, has long been out of fashion in England and America. It will soon be a thing of the past in Germany. There, however; the change will not be due to esthetic considerations, it is a sacrifice made to hygiene. An inquiry set on foot by the School Committee of Hanover, at the desire of the Prussian Minister of Education, leads to the conclusion that, while a slanting handwriting favors a crooked position of the writer, straight-up writing forces him to have his copy-book or writing-paper straight before him, and thus helps the writer to keep his body straight while writing. For this reason slanting writing is henceforth to be discouraged in German schools.—*British Medical Journal.*

The Abuse of Photography in Medicine.—The truth is, it seems to us, that photography is too much used in medical illustration, quite apart from considerations of decency and of the rights of the patient. It is invaluable, no doubt, within a properly restricted sphere, but most of the conditions that writers wish to show pictorially can be brought out much more tellingly in a sketch, or even a diagram. The most humiliating thing of all about the rage for photographic illustrations, lies in the undeniable fact that many writers resort to them mainly to support their statements, to establish their veracity. In plain words, they say to themselves that their clinical histories are likely to rouse incredulity, and that hence they must fortify them with pictures made with the machine that "cannot lie."—N. Y. *Medical Journal.*

Prof. Fenton B. Turck's Visit to New York.—Prof. Fenton B. Turck, of Chicago, who is so well known as an expert bacteriologist and a practitioner of high scientific attainments, was recently a delegate to the International Congress at Rome, and while there made several demonstrations before the general meeting and on five successive days at the San Spirito Hospital, with his wonderful contrivance for diagnosing, faradizing and treating various diseases of the stomach. He was invited from there to Vienna, Berlin, Paris, London and Edinburgh, in the principal hospitals of each city giving clinics and explaining the *modus operandi* of his contrivance. While in New York, on his way home, he was entertained by Drs. Jacobi, Gerster, Einhorn and Manley. With Dr. Manley he visited the Harlem Hospital and then in the presence of the house staff and other practitioners he demonstrated the practical application of his apparatus on the living patient; in the meantime setting forth, in full detail, as he went on, the technique of its application and the class of cases in which its action was always followed by relief and improvements.

Chicago has not ceased yet in giving the world surprises. We had first the Murphy button, next the Senn ferrule, and now a physician enters the list with a most simple and yet marvelous device, which is bound, in the near future, to revolutionize the therapy of gastric diseases.

℞ Heart-Failure
Sloy clinica fulph gr i
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THE TILDEN CO.—Gentlemen: Have used your Maltopepsine in a case of obstinate vomiting in pregnancy, when everything had failed. The result was very gratifying—so much so that I wish you to send me one pound of Maltopepsine by express, at once.

E. L. BAKER, M.D., Indianola, Iowa.

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VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)
[CONTINUED].

To the question, should it be asked: Why do not the females of the lower animals menstruate with the persistent regularity with which the human female menstruates? the reply may be made that, under like advant ages of food, warmth, and similar advantageous environments, they do so to a very large extent; but that owing to their more constant exposure to conception, the catamenial function is liable to be suppressed by its natural successor, pregnancy. The regular periodical "horsing" of mares is often observed, especially when they are fairly well-fed and not overworked; while cows, bitches and other domesticated animals exhibit regularly re newed signs of sexual aptitude. If it be asked: Do these signs resemble the sanguineous catamenial discharges of women? the reply is unequivocally affirmative; it is supported by reflection, and is confirmed by observation.

My researches have led me to certain conclusions, one of which, fundamentally important, may here be thus tentatively formulated. The sanguineous character of the estro-menstrual flux bears generally some relation to the degree of evolution of the sexual system in mammalia. Ordinarily, it appears to be proportional with the development of the generative organs and to be subordinate to their evolution; the chief evidence of evolution consisting in the lateral integration or fusion of the generative canals (Mueller's ducts), accompanied by aggregation of the ovarian elements. But it should never be forgotten that, intimately correlated therewith, are other evolutionary facts, *e. g*, the higher organiza tion of the nervous, vascular and glandular systems, upon the spinal activity or development of which variation may depend.

Accordingly in the highest mammals, man and the quadrumana, wherein the uterus is a compact organ (in the former, traces of the primitive duplicity being but feebly indicated), we find the catamenial flux to consist of almost pure blood. Even in the human species there are individual, often considerable, variations in the sanguineousness of the flux, in part obviously dependent upon the conditions of the blood—some women having only a feebly stained, or even a colorless flow, constituting the "menstruatic alba" of old authors.

In certain of the higher monkeys, in consonance with the law of evolution already propounded, the catamenial flux is perfectly sanguineous, and recurs with regularity every three or four months. In cows it is also decidedly, though probably less intensely, sanguineous, and recurs with strict regularity every three weeks. Of the accuracy of this observation, as it applies to highly bred cattle, I am assured by a most competent and able observer, Mr. Simpson, of Wray Park, Reigate, at whose model farm is a large herd of beautiful Aldernay or Jersey cattle of his own breeding; and Mr. Simpson has not only for upwards of fifteen years been a breeder on a large scale (having a herd varying between 70 and 100 animals), but he brings cultivated powers of observation to bear upon the phenomena presented, having in his earlier years studied medicine.

More or less sanguineous (sanguineo-mucous) catamenial fluxes have also been observed to recur periodically in mares, asses, cows, sows and bitches, cats, and so on. Wild animals, kept in captivity, often sustain injury in their capacity for reproduction, but not always; and when they do manifest sexual aptitude it has been observed to obey the law of periodicity (hebdomadal) already adduced.

I am indebted to Mr. Bartlett, the able Superintendent of the Zoological Gardens, for valuable information on this point. For instance the hippopotamus, which has borne three young ones in the Gardens, exhibits monthly sexual excitement, the valvular orifice swelling and weeping. Whether blood escapes is not certainly known, as the creatures frequent the water much at these times, copulation taking place in the water. Elephants, both male and female, become much excited during the breeding serson; while some animals, at other times wild, become tame and quiet.

[TO BE CONTINUED.]

MOUNTAIN LAKE PARK.—On the main line of the Baltimore & Ohio Railroad; on the crest of the Alleghenies, 3,000 feet above tide water, is one of the most charming and healthful resorts and contains 800 acres of forest and glade. The temperature is delightful and hay fever and malaria are unknown. The Park is lighted by electricity. The hotels and boarding houses are first-class; board from $7 to $15 per week. Furnished cottages or rooms at reasonable rates. All Baltimore & Ohio trains stop at the Park. Write to L. A. Rudisill, Superintendent, Mountain Lake Park, Md., in regard to hotels, etc., and for information as to time of trains, rates of fare, etc., call on any agent of the Baltimore and Ohio Southwestern Railway, or address O. P. McCarty, General Passenger Agent, St. Louis, Mo. 28

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

XI.—The Essentials of Antisepsis and Asepsis.

Thanks to the certain and infallible foundation afforded modern surgery by the antiseptic method of wound treatment and to the subsequent uniform adhesion and healing of wounds when so treated, the technique of operative surgery has received a most extraordinary and tremendous stimulus during the past quarter of a century. This was but natural for antisepsis and asepsis put within the hand of the surgeon a never-failing aid and reared up for him an ever-reliable foundation of confidence; and upon this positive foundation it was the function of modern surgery to rear a superstructure of brilliant work and of still more brilliant and indeed unparalleled results. With thorough and conscientious precautions, there is not at the present time any portion of the human body which is entirely without the pale of the dominion of the surgical sceptre—the scalpel. There is within the organism no veiled *sanctum sanctorum* to stay the hand of the surgeon in a progression which erstwhile would have been deemed profanation. The cranial cavity and its contents no longer constitute a *noli me tangere*. The thoracic and abdominal cavities, and the joints as well, are invaded, under proper precautions, with absolutely no fear of evil consequences; they are now approached with a well-merited boldness of such a nature as would have stamped the effort in former times as the offspring of either madness or criminality. The only bugbears which can and do frighten the modern surgeon are his own personal technical sins, from which the avenging Nemesis should afford him no protection. Not only are these facts, and their proper appreciation, of the utmost value in purely reparative work but they are also of equal importance in their bearing upon diagnosis of surgical and other affections. Formerly surgery was a *dernier ressort;* it was resorted to only when all other means of relief or reparation had failed and when the chances for future failures were in consequence but increased. Now, however, we may operate not only for relief but also for information, for purposes of diagnosis, in order to lay a positive foundation upon which to build proper measures of relief, whether surgical or otherwise. Indeed it may well be said that at the present time the most radical surgery is pre-eminently the most conservative in its results. These conditions necessarily and materially amplify the scope of operative skill and technique; but they also entail a double duty—thorough antisepsis, or asepsis, and thorough technique *down to the minutest details.*

Nevertheless the element of undoubted safety which has been added to most operations has engendered some curious conditions. Clumsy and bungling operators who, under former methods, had hitherto achieved but a slight modicum of success, now accomplished even brilliant results, simply through use of antisepsis, while in other cases operators of even marvelous manual and technical dexterity signally failed, simply through lack of these proper precautions. Not that antisepsis and asepsis encouraged carelessness or that a premium was placed upon crudity—far from it! The brilliant, astonishing and classic triumphs of modern surgery were only possible by a combination of what Gerster fittingly terms "technical skill, the cunning of hand and brains, with the conscientious practice or a thorough-going cleanliness." The advantage then lay, not in the encouragement of careless work but in the fact that even in spite of it the former technical bungler was given a chance of success despite his operative bungling, while the truly skilled were vouchsafed an attainment of results which were hardly within the province of even their most sanguine expectations. Yet, on the other hand, this does not alter the fact that neglect of surgical cleanliness invites a Nemesis whose retribution is not more swift than certain in its nature. It is none the less true, as has been said, that the barbaric neglect of cleanliness and lack of attention to hemorrhage, the rough methods, the tearing and the slashing frequently

necessitated by lack of anesthesia in former days has now been preceded by more exact and cleahly modes of operating. Dissection is based upon proper technical and anatomical knowledge, hemorrhage is controlled and the operative field thus kept dry, tissues are properly retracted and the course of the knife made plain to the eye of the surgeon; clean-cut incisions are made, if possible, which altogether materially increase or aid that natural and inherent tendency to repair. Indeed, with the ideal surgeon, his knowledge is as clean and sharp as his knife.

Not only is it positively incumbent upon the surgeon to care for his patient, by proper surgical skill and technique, during the operation to which he has been subjected, but it is also his duty to care for the conditions which surround that equally critical period, the stage of repair and recovery. Not only must the patient be properly protected against the injury and danger of wound infection during the course of an operation but just as thoroughly, just as effectively during convalescence—the duty in this respect does not terminate until the condition and its consequences have either terminated or else the relation of physician and patient be kept no longer intact. This means the institution of a rapid, progressive and undisturbed process of repair and healing of every operative wound—not by methods which are fantastic, not by means which are impossible, not by methods which are not accessible to every physician and surgeon, not by an enormous expenditure of time, money and worry, but by the simple exclusion of all possible means of infection. Experience has amply taught us that every wound, with proper care and attention, may be caused to adhere and uniformly progress to a state of consummated repair, provided that the exclusion of micro-organisms and their products from the affected tissues be secured. When we consider the protean forms in which the masked infection may assail favorable foci, it means naught else than the exercise of that eternal vigilance which is said to be the price of liberty. Unless destroyed or removed, micro organisms cling to all objects which come in contact with the wound—this is true of even the hand of the surgeon himself. Therefore the care and foresight of the operator must not only be constant but also universal. Does this mean trouble? Does this mean expenditure of time? Yes, but it is economy of both. It does not require the one-half of either which will be required upon the occurrence of septic developments later, due to the criminal carelessness and neglect of the surgeon who has culpably exposed the life or health of the patient who has trustingly placed both in his care. More often than not when such occurs, when sepsis develops, it is frequently too late to purchase life or health by the expenditure of any amount of either time or trouble. Nor can the proper expenditure of time and trouble in the early days of the case be compared to the mortification and remorse which arises and overwhelms when it finally dawns upon the professional attendant that his selfish regard for his own comfort has been allowed to jeopardize, even sacrifice, the life of his patient. It is again but the old, old story of the stitch in time which saves nine—only in this case applied with ten-fold force. The question is now no longer a debatable one—it stands firmly grounded upon an unassailable and unimpregnable foundation of eternal and established truth, of such strength as scientific dogma has heretofore seldom witnessed.

Slightly more than twenty five years ago Lister first demonstrated the importance of a proper consideration of atmospheric dust and the chance of consequent infection of atmospheric origin. The possibility of this he clearly demonstrated, although we know at the present time that the danger of a more material infection from instruments, dressings, hands, nails, etc., is infinitely greater. Nevertheless it is always a matter of greater safety when an operation can be performed in a clean room with smooth walls, where the possibility of stirring up dust, in any manner, from floor, walls, ceiling, furniture or ornaments has been reduced to a minimum if not entirely removed. Based upon facts which were themselves firmly founded upon ample clinical experience, and based upon Pasteur's masterly demonstration of the origin and nature of the causes of decomposition in general, Lister instituted a method, a systematic method, for the purpose of combating the operation of such causes in the living flesh of the hospital ward and sick-room. He first demonstrated that decomposition in wounds only supervenes upon contact with something introduced from without; that upon exclusion of all possible chance of infection from without no decomposition occurred. The splendid results which immediately followed an appreciation of this fact, and their substantiation by the results obtained by Volkmann, Schede, Thiersch, Socin and others beside Lister himself, led to more extended investigations, demonstrations and enunciations upon the part of the latter. Following this came the demonstration by Lister that the causes of infection introduced from without were essentially organic in nature since they were destroyed by such measures as effected the destruction of organic matter in general. Finally he established the fact that such organic sources of infection introduced from without were capable of development and reproduction—that is, that they were endowed with life—they were living organisms.

Pasteur has demonstrated that certain germs in certain media uniformly produce certain new compounds—in this manner he not only explained butyric fermentation but even gave a minute description of the germ which was its cause. Other investigators also were at work; Billroth made researches into the nature of the specific material of wound infection. By far the most important of these investigations were made toward the latter part of the seventh decade of the present century by Robert Koch. He extended the generalizations of Lister and Pasteur, determining that in wounds or even in their absence certain varieties of decomposition were only produced, as in the case of liquids contained with-

in glass flasks, as a result of the presence of certain organisms. And from this germ of truth developed and upon this important determination is founded the germ theory of disease—that among infectious diseases each distinct group of pathological conditions, which we term a disease, is directly caused or promoted by the presence and action of a specific and peculiar micro organism.

After positive demonstration of this point it became self-evident that one of the most important points in the treatment of infectious diseases was the prevention or modification of the morbid processes by exclusion of all such micro-organisms, or else the institution of con ditions unfavorable to their growth and proliferation. The first attempt in this direction, after the promulgation of the doctrines of antisepsis, was made by Lister himself. He attempted to prevent wound infection of atmospheric origin by the use of the spray, enveloping operator and patient within an atmosphere impregnated by vaporized solutions of carbolic acid, which was supposed to penetrate dust particles and infectious matter floating in the atmosphere and render it innocuous. It has been demonstrated, by Stimson among others, that it is not only unnecessary but that it is indeed impossible to attain the object sought, at least by such means as the spray. It is even claimed that its use is positively injurious when compared with the results given by improved methods, because it creates a more or less violent agitation of the dust particles, dragging them over the exposed wound surface in spite of the fact that the temporary and incomplete contact of such particles with the spray is utterly insufficient to destroy or arrest the development of any infectious germs associated with such dust particles. Therefore the employment of the spray if not actually dangerous is certainly useless to say the least. It is but justice to Sir Joseph Lister to say that he has long since discarded its use himself and even condemns it now; nevertheless, although its application was faulty the principles upon which its use were predicated remain absolutely unchanged in every single essential detail. We now know that the chance of atmospheric infection is no less positive in character, though not nearly so great as formerly imagined. Tyn dall has positively and beautifully demonstrated that air becomes freed from dust by allowing the heavy particles to settle. He demonstrated that if a beam of sunlight is allowed to pass through an empty closed vessel its path is evidenced as a bright streak because of the reflection of light by the dust particles. But if the ves sel is laid at rest for a time, negative results are attained, the path of light disappears because the dust par ticles which formerly reflected the light have sunk to the bottom and no longer float in the atmosphere of the vessel. Tyndall thus describes the experiment:

"Build a little chamber, and provide it with a door, windows and window shutters; let an aperture be made in one of the shutters through which a sunbeam can pass; close the door and shutters so that no light shall enter save through this aperture. The track of the sunbeam is at first perfectly plain and vivid in the air of the room. If all disturbance of the air be avoided, the luminous track will become fainter and fainter, until at last it disappears absolutely, and no trace of the beam is to be seen. What rendered the beam visible at first? The floating dust of the air, which, when thus illuminated and observed, is as palpable to the sense as dust or powder placed in the palm of the hand In the still air, the dust gradually sinks to the floor, or sticks to the walls and ceiling, until finally, by this self-cleansing process, the air is entirely freed from mechanically suspended matter."

By further experiment he also proved that a dustless atmosphere is always disassociated from infection of atmospheric origin, that "in all these cases you find the dust invariably producing its crop of bacteria, while neither the dustless air nor the nutritive infusion, nor both together, are ever able to produce this crop, your conclusion is simply irresistible that the dust of the air contains the germ of the crop which has appeared in your infusion. I repeat that there is no inference of experimental science more certain than this one."

These facts are made use of; dust particles are now removed by ventilation or by washing walls and furniture and finally allowing the remaining dust to settle, when it may be removed by flushing walls and floor with sterilized or antiseptic solutions. For this reason most operating rooms are now constructed of highly polished and impervious materials, such as marble, which admit ready removal of dust by such means. Kuemmel has shown that a dustless operating room can be obtained in a well-appointed hospital and Neuber has shown that most excellent results can be obtained in operations under such conditions—even without the use of antiseptic solutions, provided the hands, instruments, dressings, etc, be thoroughly sterilized. But such ideal surroundings cannot always be secured, indeed it is almost impossible outside of the hospital with its special equipment for just such purposes. It is practically impossible to escape dust in inhabited localities, no matter how cleanly the domicile—indeed, the general practitioner will have to do most of his surgical work, such as it is, in more or less dusty surroundings. Therefore we are forced to employ irrigation to remove the chance or opportunity for such accidental infection. Gerster says: "But even a constant and powerful stream of fluids will not be able to dislodge all the particles of dust that may have settled down upon and insinuated themselves into the nooks and crevices of a wound. Hence it is desirable to employ a liquid that, aside from its non irritant quality, will have the property of extinguishing the noxious effects of those particles of dust that can not be washed away by the irrigation, but remain imbedded in the tissues. *This is chemical sterilisation.*"

While these things which confront us are conditions and not theories, yet, as we have previously stated, of vastly greater importance and of vastly greater frequency is that form of infection termed contact infec-

tion. This may be caused in myriads of ways, by the mere contact of unsterilized objects of any kind, whether such be the instruments, the sponges, the dressings, pledgets, or the hands of nurse or assistant, or even of the operator himself. To guard against such form of infection not only must the wound or site of operation be as thoroughly sterilized as possible but all objects brought into contact with the wound, or with objects which are to be brought into contact with the wound, must be thoroughly sterilized as well. Infection by all channels, whether direct or indirect, must be thoroughly excluded. Upon this point we lay greatest stress, for only in such manner can thorough antisepsis or asepsis be secured. It is a trite old adage, but one well worthy of repetition here, that "What is worth doing at all is worth doing well." Of nothing is this so true as of antiseptic and aseptic procedures, because the sin of the surgeon becomes two-fold—the sin of omission of thorough sterilization develops directly into the sin of commission of infection. And woe to the unfortunate operator in such a case—who will shrive him from his sin? Is he excusable for ignorance? Is he excusable for carelessness? Granting these facts, are we not forced to face the issue?

Such conditions as we have described do undoubtedly exist—do we possess a remedy? Is it within our power to efficiently and thoroughly sterilize or disinfect everything which is liable to come into contact with the wound? The reply of Kocher to this question could hardly be more emphatic: "This question is to be answered unhesitatingly in the affirmative as regards pledgets, dressings, sutures and instruments, and a physician is no longer permitted to sin against the demands of absolute sterilization of the objects named or to excuse defects in the antiseptic treatment of wounds by untoward external conditions."

By what means can we secure antisepsis and asepsis? There is a large number of drugs possessing disinfecting power and with each moment the list increases interminably. Foremost among all of these agents stands carbolic acid, the substance to which antisepsis owes its birth; the *protege* of Lister, cast aside but only to be received back again with ten-fold welcome when a riper experience had but served to confirm his first views. Suffice it to say that carbolic acid is used exclusively by Lister, Annandale and other eminent operators. Mercuric chloride (corrosive sublimate) was formerly held in high favor but the experiments of Geppert, Tavel, Vicquerat, Zimmerman, Kelly, Welch, Robb, Ghriskey, McClintock and others all uniformly demonstrate that the germicidal value of the medicament was much overrated—indeed, it is now considered to possess little if any germicidal power, certainly less than that of carbolic acid, although its inhibitory power is high. Many operators have abandoned its use for carbolic acid and from a voluminous correspondence with many of the most prominent surgeons of America, Germany, France, England and Austria, I learn that many who use the sublimate restrict it to cleansing the skin in the vicinity of a projected operation.

The sterilizing agent *par excellence* for instruments and dressings is heat. Satisfactory sterilization of gauze, ligature and instruments can be secured by exposure for comparatively short periods to moist heat at a temperature at or slightly above that of boiling water. At temperatures of 266° Fahrenheit, and above, all micro-organisms and their spores present in permeable objects are absolutely destroyed in a very few minutes. At many of the surgical clinics in this country and in Europe the steam or hot water sterilizer has become one of the most important adjuncts to the armentarium of the surgeon. The best, simplest and most accessible substitute for steam is boiling water. It was Davidsohn who taught us to sterilize instruments by boiling. It was he who demonstrated that even the boiling of instruments for five minutes, in covered vessels charged with water, was followed, not once, not twice, but *invariably* by perfect sterilization of the objects so treated. This may be continued for a longer time if desired, indeed the longer the better, within certain limits. We may feel assuredly confident, however, that we are using properly sterilized instruments when they have been immersed for half an hour in boiling water; but the great drawback to such boiling, especially when prolonged, was that all steel instruments were invariably rusted and ultimately ruined. To the ingenuity of Schimmelbusch we are indebted for an expedient which, though simplicity itself, effectually overcame all objection on this score. He suggested the use of a one per cent aqueous solution of sodic carbonate ("soda") in place of water alone; this prevented the much-dreaded rusting. The advantages of such methods of sterilization are immeasurable in many respects; probably one of the most important is the simplicity of the process, and the apparatus as well, to say nothing of the ease with which the latter may be obtained and the former applied almost anywhere.

It is interesting to note that Tavel has demonstrated that solutions of sodic chlorid (common salt) and of sodic carbonate (soda) require much less boiling for complete sterilization than simple water. Therefore the addition of soda to water, as suggested by Schimmelbusch, to prevent rusting of instruments, in the process of sterilization is not only beneficial in such respect but also actually hastens and perfects sterilization. Tavel has shown that a solution of 0.75 per cent of salt and of 0.25 per cent of calcined soda is absolutely sterile after fifteen minutes' boiling (killing various spores, among others those of the bacillus of anthrax and of the hay bacillus); this solution also keeps very well, only a few mould fungi developing at the end of an exposure of several weeks, it is claimed. Gauze compresses, pledgets and silk Tavel claims to have rendered absolutely sterile by boiling them half an hour in the solution. He furthermore demonstrated that such solution was unirritating to wounds and to the peritoneum and hence, in his opinion, formed an excellent non-irritating and ab-

solutely sterile solution, when so boiled, which seemed to be especially adapted for purposes of aseptic irrigation.

Perhaps it might behoove us to give some consideration to a few of those points, purely technical in nature, by means of which success is attained—*per aspera ad astra*.

Cleansing of the Patient and Sterilization of the Wound Area and Vicinity.

Many surgeons give, where practicable, one or more warm baths preceding the operation. In the early days of antisepsis Volkmann thought that shaving and scrubbing of the skin in the neighborhood of the proposed operation should precede all other measures with a view to disinfection. There cannot be the slightest doubt, in fact time has but comfirmed his practice, that the powerful adjuvants of razor, soap, stiff brush and hot water are of the most desirable nature. We know that masses of filth, cutaneous debris and of pathogenic and pyogenic micro-organisms cling to the epidermis and especially in those regions most covered with hair; furthermore, such collections are permeated by the natural sebaceous secretions of the cutaneous glands, such coating forming an effectual barrier against the penetration of watery solutions of antiseptic medicaments, with the probable exception of carbolic acid. Schimmelbusch has demonstrated the inhibitory effect of such unctuous materials upon the action of chemical sterilizers in aqueous media. Therefore some means must be used for the removal of such objectionable substances. To effect this the area is shaved, if hairy, removing at once mechanically a great number of organisms as well as conditions favoring re-infection. Then thorough scrubbing with potash or soft soap, hot water and a stiff bristle brush sweeps away with rapidity and facility, grease, filth, cutaneous debris and noxious micro-organisms, leaving for the action of subsequently applied antiseptics but a minimum amount of work to do.

Not only must we sterilize the wound area in the manner just indicated but it is obligatory that we look strenuously to the means by which we accomplish our objects. Among the various articles used for such purpose probably none is so exposed to infection and is therefore so liable to become a dangerous though unconscious focus of infection as the surgical nail brush. Schimmelbusch has made extended investigations and experiments in the cleansing and sterilization of such brushes. He has positively shown that the common method of a single brief immersion, in even a strong germicidal solution, is hardly more than merely perfunctory in nature, it is entirely inadequate to destroy the adherent pathogenic and especially the pyogenic micro-organisms and, moreover, inspires a confidence which is entirely false and which can be naught else than baneful in effect. Upon examining the brushes so treated in the Berlin clinic Schimmelbusch found them to be especially rich in pyogenic bacteria; he also demostrated that an immersion of at least ten minutes duration and made in a strong mercuric solution was absolutely necessary. This was true when the brushes so sterilized were entirely free from the soap used in scrubbing. But more frequently than not the brushes are thrown back after use, fairly reeking with soapsuds and infectious material, the soap rendering the sublimate entirely inert and the infectious material converting what should be a haven of safety into a masked and uncertain, and therefore doubly dangerous focus of infection. Therefore where sublimate sterilization of brushes is employed it is imperative that all soap should be cleansed from them before immersion in the sublimate solution, otherwise perfect sterilization cannot be effected. On this account it is a source of great gratification and congratulation to learn from the researches of Schimmelbusch that simpler and far more reliable means of sterilization are within the reach of every physician and surgeon. He has proven that the most unclean brush can be rendered absolutely and indubitably aseptic by simple boiling for five minutes in a one per cent aqueous solution of soda.

With such simple, effective and accessible means for the sterilization of surgical nail brushes at our disposal there cannot be the slightest shadow of an excuse for neglect in this direction, nor indeed can there be for culpable neglect anywhere in the chain of antiseptic or aseptic procedures essential to every precise and scientific operation.

Cleansing and Sterilization of Instruments.

No one can doubt for an instant that the removal of such debris as pus, blood, portions of animal fibres and tissues and what not which inevitably cling to all instruments used in the course of an operation, should be thoroughly attained before use of such instruments for operative work again. We do not think that even the most conservative adherents of the old-fashioned methods could or would gainsay the fact that such precaution is only proper and legitimate—nay, even demanded. But what of the instrument which has come in contact with infected tissues, instruments which have bathed and reeked in the morbid discharges or tissues overwhelmed by erysipelas, by tuberculosis, by syphilis or by an infectious affection of any nature? Is the necessity for purification of these instruments not greater, incalculably greater, than in the case of instruments which have traversed only perfectly normal and uninfected tissues? However, it has been demonstrated by Schimmelbusch that even the most careful, thorough and extensive scrubbing and washing of instruments with hot water, soap and a stiff brush does not and cannot render them aseptic if they have been once infected. To many, especially artery forceps and other purposely roughened instruments, considerable and dangerous quantities of harmful germs were found adherent. It is necessary to do more than merely wash the instruments, no matter how thoroughly the latter process is conducted. Simplicity in an instrument is now, all other things being equal, the most desirable quality.

The very best and certainly the very safest are the simplest, those fashioned entirely of one piece of metal and having no crevices and interstices to offer favorable lurking places for infectious material. They should, moreover, possess smooth and well-polished surfaces—no grooved or otherwise roughened handles; they are unnecessary, they are hard to clean thoroughly and what is more they directly invite and favor collection of infectious material and hence increase chances of septic infection in operative work. As Gerster says: "Another factor has to be considered. In the large practice of our hospitals, where from three to five operations are performed at one session, the minute cleansing of a large instrumentarium after each operation is tedious, involving considerable time. We either had to submit to this, or had to provide a disproportionately large and costly set of duplicates and triplicates. As a matter of fact, the latter thing was rarely resorted to, and the cleansing of the bloody instruments being hurriedly and often inadequately done, main reliance was placed upon the disinfecting power of our carbolic acid bath. And as consideration for the assistants' hands had gradually caused the abandonment of the stronger for weaker solutions, frequent failures in securing primary union were the result of these evasive attempts."

How different and how much more certain are the conditions at our disposal at the present time! All that we need is a covered vessel containing a one per cent aqueous solution of soda; after boiling the instruments therein for five minutes we may empty them into steril ized water or, better, a 1:20 or 1:30 solution of carbolic acid. They are thoroughly sterilized and are ready for use. In many hospitals cold sterilized soda solution is kept at hand to be poured over the hot instruments upon placing them into the tray. Sterilized water is also frequently employed for the same purpose.

We may then sum up the requisites for thorough sterilization of instruments to be used in operative work as follows:

a. A thorough preliminary cleansing with a stiff brush and plenty of soap and hot water.

b. After such preliminary cleansing all instruments are to be boiled for at least five minutes in a covered vessel containing a one per cent aqueous solution of soda. All instruments, complex in nature, which for any reason cannot be subjected to thorough preliminary cleaning, or which have been exposed to specially virulent infection, should for caution's sake be boiled for half an hour.

c. After such sterilization is completed the instruments should be placed in a tray of three or four per cent carbolic acid solution to guard against infection before use.

NOTE.—All instruments dropped during an operation should be left untouched unless re-sterilized.

PREPARATION AND STERILIZATION OF DRESSINGS.

The dry preservation of dressing materials sterilized and impregnated with phenol or sublimate must be entirely rejected. Not that these substances possess no value but that such sterilization is but ephemeral at best in the case of dressings which are not used within a reasonably short time after subjecting them to such means of sterilization. Phenol is more or less volatile and sublimate is rendered inert by long continued contact with organic matter. Sterilization can only exist as long as these agents are present in active form. Kocher says that positive demonstrations show that such is not the case with dry dressings chemically sterilized, unless the materials are applied directly to the wound from the antiseptic solution. We cannot be sure that such dressings have not become re-infected after the antiseptic agent has volatilized or become inert.

When we consider the large quantities of fabrics handled by the large number of persons required by the folding, immersing, wringing, unfolding, drying, refolding, cutting and final storing or preparation for shipment; when we also consider the fact that the workmen are necessarily devoid of the technical knowledge of asepsis and the minutæ of conditions required by the surgeon in aseptic work, we must be forcibly struck by the chance of possible accidental contamination. Necessarily the manufacturer's standard is one more or less commercial in nature, the essential requisite *to him* is profit and yet he must also meet competition; therefore the work must be conducted by individuals to whom the requirements of surgical accuracy are matters of utter indifference, if indeed they be not also matters of utter ignorance. It is obligatory, it is essential that we assure ourselves beyond a peradventure that all dressings are actually sterilized before employment in wound dressing. We surely cannot credit such an ideal to all dry dressings supplied by manufacturers. Not that their use should be forbidden but that they should not be accepted as sterilized when such evidence is based solely upon the *ipse dixit* of the manufacturer; he is surely not going to make derogatory remarks about his own products, and even where he is thoroughly conscientious the chances of infection, both while in his hands and afterwards, are utterly beyond his ken. Therefore if we do employ such dressing materials we should make assurance doubly sure by re sterilization. No better directions for such process can be given than those offered by Dr. Gerster in a recent paper on "Aseptic and Antiseptic Details in Operative Surgery;" we quote him *verbatim:*

"For purposes where a reliable dressing has to be procured, *extempore* boiling in a soda or potash solution of about 1½ per cent for ten minutes is incomparably the simplest and most practical manner of getting an absorbent and aseptic material. In this procedure we recognize at once the familiar ways of the laundry, the eminently aseptic results of which have been demonstrated beyond any reasonable doubt by Behring in the Berlin Hygienic Institute. Thus cotton or linen stuff, to be found in every household, can be readily rendered serviceable for surgical purposes by a short boiling in

soda or potash lye. Well wrung out, it can be immediately used, and will dry rapidly *in situ* under the influence of the body heat and exposure to the air."

Sterilization by means of hot air has also been suggested and employed but, as Gerster says, has not received consideration because of the necessity of costly and complicated apparatus. Then, also, there can be no question but that the methods of sterilization by employment of *moist* heat are vastly more efficacious and vastly more simple than those by dry heat. These objections, therefore, do not obtain against the employment of steam for purposes of disinfection or sterilization.

[TO BE CONTINUED.]

Compound Fracture of the Frontal Bone.

BY A. R. MC COMAS, M.D., STURGEON, MO.

Read before the Missouri State Medical Association.

GENTLEMEN.—The case I desire to present is one of a great many that are treated expectantly or subjected to temporizing and lack of remedial measures indicated by common sense and ordinary judgment, by too many physicians not actively engaged in hospital work. Be cause they do not exhibit all the train of symptoms of depression and inflammation at the time of injury.

It is a fact long since demonstrated that a compound fracture of the skull, where there is a depression or laceration of the coverings of the brain demands immediate operation: as a riddance from the train of symptoms which certainly follow a wound opening into the brain affording an entrance to germs which are sure to produce inflammation.

Still there is a class of men who have not yet awakened to the true state of affairs either through lack of judgment or timidity.

This is not a time when a patient should be allowed to die from an injury however far he may be removed from a well regulated hospital. The surroundings outside, though not of the best, can be improved upon until they surely offer a better prospect to the patient with an operation than without.

It is folly to wait until the inflammatory process has already set up before attempting an operation. If an operation is indicated at all why not perform it at once and thus diminish the suffering of your patient and rid him of the dangers of septic infection. The loss of brain substance in whatever portion of the brain certainly impairs the integrity of that organ.

Sooner or later epilepsy or insanity may follow, and for the brain to lose its function is to become a useless imbecile.

The fact that the brain has been known to withstand the ravages of a purulent inflammation, the laceration from a crowbar, the removal of a cerebral hernia, does not argue that a foreign body so situated as to be a medium of infection should be left there; and an injury impairing the integrity of the organ be treated with ice packs and bromides. I say this is the height of folly and yet there are men in the profession to day who will hold up their hands and say, wait a while, try cold (or some other agent equally ineffective or delusive).

Then they will cite the "American crowbar case" and others that are familiar.

Do not let this deter you from performing the duty you owe to your patient and to science.

I would not say make every case that comes within your grasp a stone on which to build reputation; far from it.

But in the interest of humanity do not become imbued with that cowardly kind of fear that prevents you from performing a reasonable duty.

Be honest with your patient, be true to yourself.

Do for him that which in the light of the present your judgment approves.

The report of my case is as follows:

Sam'l J., boy, age 16; American; occupation, miner. Health good up to time of injury.

On September 3, 1891, he was loading his car with coal when he was struck on the back of the head by falling slate, forcing his head down upon a bolt at the corner of the box, causing a laceration of the scalp and a compound fracture of the frontal bone above the orbit of the left eye.

He left the mine, walked some distance, to his home. A physician was called, who stitched up the external wound. In a few days the boy was out, but complained of his head aching on receiving any sudden jar, or exposure to the sun. He continued in this condition for several weeks when he grew worse, was confined to his bed, the symptoms gradually assuming greater gravity.

I saw him for the first time November 20, 1891, seventy-nine days after the injury. Pulse, 58; temperature, 101.4°; respiration, 23. Complained of chilliness, pain in the back of the head, answers questions reluctantly. There was no paralysis. The wound in the scalp was dark; had never healed. I discovered the

fracture by palpation and diagnosed abscess of the brain. I advised an immediate operation, but consent was not given.

On November 22, I was summoned, the messenger saying the patient had had a convulsion, and they desired an operation.

At 2 P.M, pulse, 96; temperature, 102°; respiration, 23. Pupils unequally dilated, did not respond to light, was profoundly comatose. He was hurriedly placed on the table, the old wound enlarged, and a perpendicular incision made, the flaps turned back, which exposed two lines of fracture, beginning three-fourths of an inch to the left of the median line, one inch above the arch of the orbit; extending one and one eighth inches in length and three-fourths of an inch in breadth. A piece of bone was found to be driven into the brain substance which could not be removed with the elevator, and the trephine was applied on the upper edge of the fracture one inch from the median line.

On removal of the button of bone the dura bulged into the opening and was pulseless. The opening was further enlarged by the removal of several fragments. Then this irregular shaped piece of bone which shows a more extensive fracture of the inner than the outer table was removed. (It weighed sixteen grains). At this juncture chloroform narcosis ensued and the patient's head was lowered whereupon the abscess further emptied itself of about three ounces of pus.

The edges of the bone were now smoothed, the debris removed, the wound irrigated, drained, closed and dressed with sublimate gauze.

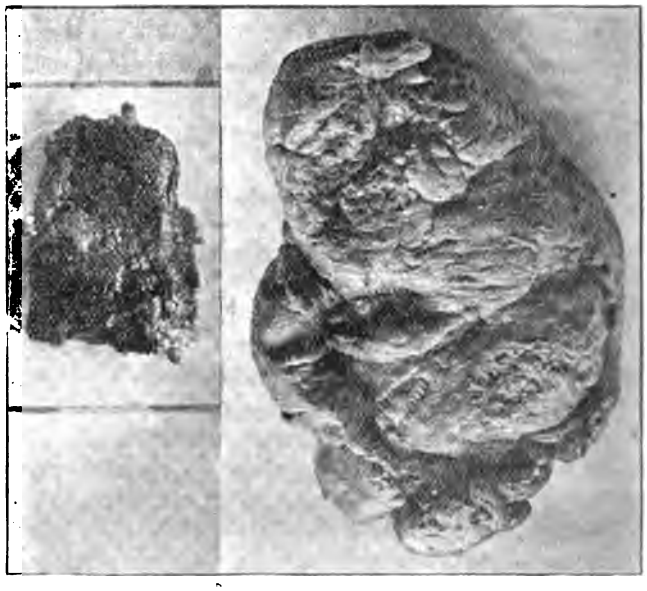
November 23. Pulse, 86; temperature, 99.8°; respiration, 22. Patient conscious. No pain.

November 24. Pulse, 86; temperature, 100.6°; respiration 28. Complains of pain in the head. Wound discharging pus. Edges of the wound tense from pressure from within. Wound irrigated and a compress applied.

November 25. Pulse, 80; temperature, 100 4°; respiration, 26. Still complains of pain. A hypodermic of morphia was given him and the compress again applied.

November 26. Pulse, 88; temperature, 100 4°; respiration, 28. Rested badly during the night; pain in the head more severe; nausea. He was developing symptoms of depression. The compress and sutures were removed and the hernia allowed to form. He was given iron freely, and gradually improved.

On January 11, 1892, the hernia was removed in the following manner, viz.: A needle carrying a double thread was passed through its base, each half was



ligated separately, the hernia excised and the wound closed. The muscles of the upper eyelid had been pressed upon so long that when they were again brought into action they allowed the lid to droop. Later the adhesions were broken up and the lid raised until it was out of the line of vision when raised and covered the ball completely when closed. The patient was discharged February 11, 1892. Subsequent examinations June 23, 1893, and May 28, 1894: Health good; scar not so plain; says his memory may not be so good as before, but it seems to be a good average.

The hernia, the piece of bone and the photographs of the case are before you.

MOUNTAIN LAKE PARK.—On the main line of the Baltimore & Ohio Railroad; on the crest of the Alleghenies, 3,000 feet above tide water, is one of the most charming and healthful resorts and contains 800 acres of forest and glade. The temperature is delightful and hay fever and malaria are unknown. The Park is lighted by electricity. The hotels and boarding houses are first-class; board from $7 to $15 per week. Furnished cottages or rooms at reasonable rates. All Baltimore & Ohio trains stop at the Park. Write to L. A. Rudisill, Superintendent, Mountain Lake Park, Md., in regard to hotels, etc., and for information as to time of trains, rates of fare, etc., call on any agent of the Baltimore and Ohio Southwestern Railway, or address O. P. McCarty, General Passenger Agent, St. Louis, Mo. 28

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Chancellor Chaplin's Remarks on St. Louis Medical Colleges.

Our readers are probably aware that a merry war has been going on for sometime in the daily papers of this city on account of some remarks by Chancellor Chaplin of the Washington University at the last annual meeting of the Harvard Medical Alumni Association.

The Chancellor is an Eastern man and we believe even a Bostonian. We do not know whether he belongs to that class of citizens of the Hub who pronounce culture "cultshah," we suppose though that he does not. At all events he hails from the East. Now, if there is any vulnerable point in the feelings of a Western man, it is just about this matter of culture, if broached in a derogatory spirit by an Eastern man and a Bostonian in particular. The fact is that the Chancellor has trod on our best corns. We St. Louis doctors especially are extremely touchy on the matter of medical education as a St. Louis specialty. Some of our fellow citizens point with pride to the exalted position which St. Louis occupies as a center of learning. They glory in the fact that there is no city in the world that can hold the candle to St. Louis as to the number of medical colleges.

We have more medical schools in St. Louis than either France or Italy, and at a time when the great center of medical learning in Joplin was still flourishing the State of Missouri had the proud distinction of closely approaching the number of medical schools in Germany. Since the enterprising doctors of that mining camp closed the door of its college in consequence of an inexplicable want of appreciation on the part of medical students, our Missouri schools have fallen to the discouraging number of seventeen. We can readily understand how a man who is not thoroughly acclimated yet, like Chancellor Chaplin, does not fully appreciate our greatness and enterprise in the matter of medical education; his ideas are not those of the West, they are preeminently un Western. A very encouraging feature of this whole question is that the editors of several daily papers have taken up the gauntlet and fight for one of our chief glories of our City and State.

Thus the *Post-Dispatch*, a day after the publication of the speech in that paper, brought a caricature of the Chancellor representing him with a big head and a small hat, too small for the head, which probably means that he is a typical Bostonian and that consequently his strictures on St. Louis medical culture are not appreciated. The *Globe-Democrat* called him Pan-Gloss Chaplin, which probably means that in the opinion of the *G.-D.* editor the Chancellor talks too much with his mouth. We believe that the ire of the different parties who have given vent to their feelings on Mr. Chaplin's adverse criticism would not have been roused to such a degree if he had been a Western man himself and if his charges and ridicule had been less sweeping. As it was, the speech as published gave the impression that the Chancellor of the Washington University was not very enthusiastic about the culture of St. Louis in general. If he had specified a little more, possibly the indignation would have been less intense and more confined.

As to the truth about the multiplicity of the medical colleges in St. Louis and the far from beneficial effect this condition of affairs has on the teaching of medicine, there would probably be but one voice among the physicians of this city, but especially those that hold chairs in the colleges. We do not believe that there is one professor of medicine in this city to day who is not convinced that there are too many medical colleges and that it would be a blessing if a speedy death would remove them with the exception of one or two, provided, of course, that his college was included in the surviving number. Naturally there are cavilers who maintain that the greater the number of colleges the more inferior will be the output of annual graduates. There have been also such expressions as mushroom growths and the survival of the unfit when the history of some of the recently established institutions of medical learning is discussed. While some say that the number of matriculants is a sure index of the quality of the college, there are others who assert that the lower the standing of a medical school the greater the number of the students. Some malevolent persons have even gone

so far as to set this down as a special and characteristic feature of St. Louis medical colleges.

Some very curious stories have been afloat on the methods employed to catch students and the conditions under which such students have been matriculated. Perhaps such allegations are not entirely due to envy pure and simple, but let us be reasonable and charitable. What would become of our local medical talent if they did not have an opportunity of letting their light shine before the benighted denizens of the Southwest. Their noble ambition of illuminating the dark minds of the seekers after medical truth would wither and atrophy for the want of a proper stimulus. The Chancellor is wrong in making such biting and scathing remarks about one of the chief attractions of the great metropolis of the West. After he has lived amongst us a little while longer he will probably recognize the raison d' etre of this multitude of medical colleges. We are sorry to say that we feel in duty bound to increase his chagrin over existing conditions, to impart to him the glad news that at no distant day the dozen of medical colleges will be full. We hear that a number of enterprising young doctors and some dissatisfied older ones, backed by knowledge and capital, are about to start a new college which for facilities of graduation will throw all the rest in the shade.

Veterinary.

Our patrons will have noticed we devote a department to Veterinary Surgery, edited by T. E. White, D.V.S., State Veterinarian of Missouri, and having met with much encouragement, not only from physicians but from veterinary surgeons, we conclude to keep up this department, which will in no wise decrease the value of the REVIEW, to the regular practitioner. While practicing physicians in cities will have little use for the Veterinary Department, they will remember that a large proportion of their brethren who practice in rural districts are called upon frequently to do veterinary work, from the fact in such districts there is no regular veterinary surgeon, therefore we believe that every country doctor should have at least knowledge enough of veterinary practice to be able to treat the ailments not only of his own horses but those of his neighbors. A little brushing up in this direction will enable them to treat live stock without the aid of quack remedies, which are used to such an extent in the rural districts.

We publish of this issue of the REVIEW, in addition to our regular issue of 10,000 copies, 6,000 extra which are sent as samples free to veterinary surgeons throughout the United States and Canada. Our object in this is if possible to add to our already large list of subscribers, the veterinary surgeons, and in order to induce them to try the REVIEW, we will mail it to them for the bal ance of the year on receipt of $1.00. Trusting that our efforts to secure their co-operation will not be in vain.

To Medical Publishers.

The Secretary, Charles Wood Fassett, furnishes the following communication: In consequence of the closing of the hotel at White Sulphur Springs, W. Va., the meeting place of this Association has been changed to Hot Springs, Virginia, which is but a few miles east of the place first selected, on the Chesapeake & Ohio R'y. The date has also been changed to Tuesday and Wednesday, August 14 and 15. All medical publishers are cordially invited to attend, as matters of vital interest are to be dicussed. Several interesting papers have been announced, and the meeting promises to be one that no publisher can afford to miss. All who contemplate attending this meeting will please advise the Secretary at once, stating the number of persons in the party, in order that provision may be made for their accommodation.

The Pathology of Scarlatina.

"Opinion at the present among those engaged in the study of this disease," says the Montreal *Medical Journal*, "would seem to be tending decisively towards the throat, and more especially the tonsils, as the primary seat of the scarlatina virus. This is the view brought forward by Dr. Dowson in a most able thesis delivered at Cambridge, and the same view is being expressed by bacteriologists who, like Dr. Berge, look upon the disease as due to the local action of a streptococcus. The affection of the tonsils, according to these observers, precedes (as we think has been and must be generally acknowledged) the appearance of the rash; it is a matter of common knowledge that during epidemics of scarlatina, or in households where one or more members are prostrated by the disease, cases may occur of sore throat simulating that of the fully developed malady, but unaccompanied by any cutaneous eruption, and many observers hold that such sore throats are distinctly infectious. Whether here we have to deal with the action of a streptococcus resembling that of erysipelas, if not a variety of the same, as Berge holds, is a matter that has still to be confirmed. There is, however, not a little truth in the contentions of this observer that the complications of the disease are frequently associated with the presence and action of streptococci, that there is a curious connection between scarlatina and puerperal septicemia (this being frequently due to a streptococcus), and that there is a similarity between the scarlatinal and erysipelatous erythemata. It may be, however, that the disease is not due to streptococcus, but that it predisposes to the invasion of the tissues by this microorganism. It is premature, as yet, to make any absolute statement upon this matter.

"Be this as it may, there would seem to be not a little force in the suggestion that in the tonsils is to be found the prime seat of scarlatina, and the practitioner may, we think, be safely recommended to observe whether attention to the conditions of these organs in the earlier states of the disease leads to an amelioration of the

symptoms. *A priori*, it is not to be expected that mild antiseptic lotions applied to the tonsils should cut short the course of the disease, but it is not impossible that the treatment suggested might lessen the incidence of pulmonary and other complications, and might give to the malady a milder character."

We agree with the Montreal *Medical Journal* that it is premature to make any positive statements as to the correctness of these views, for as long as the exact cause of scarlatina is not known such speculations can only be looked upon as hypotheses. That early attention be paid to the throat affection is certainly very commendable on general principles as well as for the reason that the fauces may be the primary focus of infection.

The Leaven of Science.

At the dedication of the Wistar Institute of Anatomy and Biology of the University of Pennsylvania, on May 21, a report of which is published in the *University Medical Magazine* for June, Dr. William Osler, of Baltimore, delivered the principal address (New York *Medical Journal*). It was a fitting tribute to the memory of the men who have from time to time occupied the chair of anatomy in that university. Dr. Osler closed his address with substantially the following remarks: There was great need, he said, in the colleges of this country of men who were thinkers as well as workers—men with ideas, and men whose energies were not sapped in the treadmill of the class-room. In the laboratories of the institute opportunities would be given for this higher sort of university work. The conditions about us were changing rapidly; in the older States utility was no longer regarded as the test of fitness, and the value of the intellectual life had risen enormously in every department. The "leaven of science" gave to men habits of mental accuracy and modes of thought which enlarged the mental vision and strengthened the "sinews of the understanding." Science had done much, and will do still more, to alleviate the unhappy condition in which so many millions of our fellow-creatures lived, and in no way more than in mitigating some of the horrors of disease. What, after all, Dr. Osler asked, was education but a subtle, slowly effected change, due to the action upon us of "the externals," of the written record of the great minds of all ages, of the beautiful and harmonious surroundings of Nature and of art, and of the lives, good or ill, of our fellows? These alone educated us, these alone molded the developing mind. These influences would lead successive generations of youth from matriculation to graduation in the special school: The complex, varied influences of art, of science, and of charity—of art, the highest development of which could come only with a sustaining love for ideals; of science, the cold logic of which kept the mind independent and free from the toils of self deception and half knowledge; of charity, in which we of the medical profession, to walk worthily, must live and move and have our being.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, June 23, 1894, A. D. WILLIAMS, M.D., President pro-tempore, in the chair.

* * *

DR. F. R. FRY reported a case of "Bulbar Paralysis," and said.—I wish only a few moments of the society's time to report a case, more for the purpose of having it on record than for any other. It is a case of bulbar paresis, in a woman, 50 years of age, who passed her menopause a year and a half ago. Her symptoms at present are those of chronic bulbar paralysis, with a spastic paralysis of all the extremities. There is the characteristic symmetrical paresis of the lips, of the tongue, of the pharynx and of the larynx. Swallowing is difficult, especially when she wishes to swallow liquids, and more especially when she attempts to wash down more solid ingesta by the use of fluids; they are apt to regurgitate through the nose. The laryngeal paralysis is apparent in the fact that she cannot vociferate loudly; for instance, if she tries to call her daughters from a back room in the house, she cannot raise her voice high enough to attract their attention. There are also some respiratory difficulties. She has spells when breathing becomes so difficult as to embarrass her a great deal, so that she cannot ascend one flight of steps without suffering. She is also troubled with spells of palpitation. These are the ordinary symptoms of chronic bulbar paralysis, or progressive bulbar paralysis as it is called; also called labio-glosso-laryngeal paralysis on account of the parts that are prominently and earliest affected.

Besides these symptoms that I have mentioned, there is another interesting condition present, in that there is a demonstrable paresis of all the extremities. The right leg is weaker than the left; the right knee jerk is considerably more exaggerated than the left, and there is also some ankle clonus on this side. The tendon reflexes of the left arm are more exaggerated than those of its fellow. The paralysis is not greater on one side of the body, but greater in one arm and in the opposite leg. This is an interesting point.

This condition of coincident spastic paralysis of the extremities with a chronic bulbar paralysis is rare. I think Charcot showed that in a certain number of cases it did occur. It is not so rare to have atrophic paralysis accompanied with atrophy of the extremities—that is paralysis accompanied with atrophy of the extremities—associated with these bulbar symptoms; and sometimes these cases seem to begin as ordinary cases of chronic anterior polio-myelitis, the atrophy showing in

the extremities before the bulbar symptoms appear. Chronic bulbar paralysis is generally due to atrophic changes, or atrophy occurring in the nuclei of these several nerves following back along the floor of the fourth ventricle. However, the condition sometimes involves the fibres of the nerves themselves rather than the nuclei. When this degeneration occurs in the fibres of the seventh, it is an interesting fact to notice that you have a spastic condition of the lips instead of atrophy. In the one instance the disease involves the nucleus of the seventh, and in the other it attacks the fibres of the nerve after it leaves the nucleus. The spastic paralysis that we find in this case is due to a sclerosis of the pyramidal fesciculus, probably in the pons and in the medulla.

The other noteworthy facts in this case, besides the involvement of the extremities in a spastic paralysis, is the family history of the woman. I reported last fall, two cases of Friederich's ataxia, in two little girls, sisters, photographs of whom I presented when I read the notes of the cases. This patient is the mother of those girls. At the time I reported these cases, I stated that there was nothing unusual in the family history. Although we inquired particularly, we could find only one case of neuropathic disease in the family, and that was in an uncle of the girls, a brother of this woman, who had had a chorea for many years of his life. In examining the patient, however, we found nothing remarkable, except that he was a neurotic person and possibly addicted to the use of chloral or some other drug.

We have, however, in this instance a degenerative disease attacking the upper portion of the cord, the bulb, which, as we know, anatomically and physiologically, is really an expansion of the upper portion of the cord. In other words, we have an hereditary tendency probably showing itself in the mother after it had already shown itself in the children.

* * *

Dr. Robert Funkhouser related a case of "Left Hemiplegia" in a child one year old. It was evidently the result of a fall from the bed, sustained by the child during the night previous. There had been no loss of conciousness after the fall, the child is bright, does not seem to have any pain, and is good-natured. There was some difficulty in nursing, and also a peculiarity about the tongue and also with the expression of the face when laughing. Careful examination of the head failed to reveal an injury or contusion, and the symptoms were due, in all probability, to a hemorrhage or serous effusion in the neighborhood of the tissue of Rolando.

Dr. Fry said that the trouble in the case reported by Dr. Funkhouser is probably not in the cortical region, but deeper down in the brain where the fibres of the pyramidal fesciculus converge, and where a small lesion would involve a great many fibres. This view may be assumed from the clinical history; namely, the mental condition of the patient, no tendency to coma, no headache, no indentation about the skull and the involvement of the who e side of the body by the paralysis. Cases of this character must be closely watched as there might be a subsequent effusion of blood in the cortical region which should be relieved by an operation.

Cases of cerebral hemorrhage in children are of great interest. Dr. B. Sachs, of New York, a few years ago collected a large number of cases, giving the clinical history of some and showing how far we may err in our diagnosis. Intra-cerebral hemorrhage, hemorrhage occurring in the vicinity of the internal capsule, is rather rare in children but does occur.

Dr. Joseph Grindon, referring to Dr. Fry's case, called attention to the peculiarity of the heart's action in these cases. He had observed some in which it was very rapid, and others in which it was slow. These symptoms are due, in all probability, to the close proximity of the ganglion of the pneumogastric to the seat of disturbance. He recalled several cases seen at the Poor house, in which the atrophy of the lip muscles was well marked, as was also the symptoms of coughing and choking resulting from the descent of food particles into the bronchi, at times causing fatal lobular pneumonitis.

* * *

The discussion of Dr. Fairbrother's paper was resumed as a special order of business.

* * *

Dr. Fry said there was one point brought up in the discussion last Saturday night that will bear illustrating again; namely, the point of feigning diseases which is unintentional on the part of the patient. Some hysterical patients often present symptoms which are very hard to distinguish from genuine, so that a diagnosis is very difficult, even by experienced persons. Very much akin to those hysterical feignings is the condition that we find in neurasthenic patients. We are not sufficiently well acquainted with the symptomatology of neurasthenia to decide at all times whether symptoms are genuine or not. Neither have we the data in such shape to convince jurors and persons who have not paid particular attention to the symptomatology of neurasthenia. A distinction should also be drawn between the neurasthenic approach to other conditions, and the hysterical imitations of other conditions. For instance, we often find area of anesthesia in neurasthenic persons, yet we are not warranted in concluding that the neurasthenic condition is not genuine because we cannot demonstrate the existence of pathological conditions of the central nervous system.

It is just on this point that some of the most important law suits hinge to-day, and experts will continue to be opposed to one another.

In reference to the two tests for the detection of pain mentioned by Dr. Bremer, the speaker did not believe that they are always incontrovertible. The instance was mentioned of a non-hysterical woman suffering with ovarian pain, in whom slight pressure relieved the pain and caused an increase in the heart's action. The speaker had seen cases in which pressure on the ovary

increased the heart's action markedly, and where pressure on a sensitive spine produced marked dilation of the pupils.

Dr. Jacobson had had experience with cases of feigning while acting as assistant dispensary physician. In most instances the disease or injury was feigned by persons who desired a place of shelter in the city institutions. The troubles most frequently simulated were injuries to the back and poisoning.

Dr. A. D. Williams recalled instances of feigning in the army during the war. Chronic rheumatism was the favorite complaint, and one case was usually followed by a general epidemic. The cases were speedily relieved by heroic measures, such as cupping or large sinapisms.

Dr. Funkhouser related the case of an hysterical woman who was supposed to have taken poison. Her lips were red, patient vomited and complained of pain all over the body. This gradually became localized to the ovaries, and was followed by a cataleptic trance and apparent unconciousness. Hypnotism was tried but unsuccessfully. The patient threatened those about her with disclosing secrets, and gave other evidence of mal ingering.

Dr. Miller had seen a case of apparent hip joint disease in a girl 12 years of age. Later on she was found to have hysterical aphonia and regular epileptic seizures. A genuine case of hip joint disease occurred in the same house at the same time, and the symptoms of the two patients were so similar that consultants who were called could decide between them only with the greatest difficulty.

Dr. Boas cited the case of an old soldier, an applicant for a pension, who underwent the operation for stretching the sciatic nerve to convince the authorities of the justness of his claim. After the operation he improved very materially, but retained just enough "rheumatism" to draw his pension.

Dr. Fairbrother said in reply to Dr. Bremer that the pulse and pupil tests for pain are too capricious for reliability. If pain produced by pressure with the thumb will cause the pupils to dilate, or the heart's action to be greatly increased, then pain from any cause should produce the same effect. This is contrary to the most common observation.

The doctor's remarks about the contagiousness of feigning are very true, but might be improved by a little explanation. Feigning may be contracted from another case of feigning, but, what is more frequent, it may be developed from a real disorder, as in the case of hip joint disease related by Dr. Miller. One case of rheumatism in the army was often known to give rise to a half dozen cases of feigned rheumatism. This contagion may be imitation, as one child imitates another; or like certain diseases or states of feeling, it may spread from one to another by a sort of infection.

Dr. Bremer is opposed to the medical man playing detective, but surveillance is our sheet anchor in the investigation of suspected malingering. Without the privilege of watching, either directly or indirectly, our hands would be tied. This is especially so in feigned insanity. A woman who claimed to have received a shock in a railroad collision demanded damages upon the ground of insanity. She appeared thoroughly insane for several months, but, growing tired of the close watch placed upon her, removed to the most distant and out-of-the-way place she could find in the city, where she took a six weeks' vacation from her insanity.

The speaker thought the remark of Dr. Fry about the difficulty of having a diagnosis confirmed, is of great importance to the medical profession. It is something to make a diagnosis, but often quite a more difficult matter to prove it. If a man states that he has defect of sight or hearing, or that he has epileptic fits, the court will often take his word for it before that of a medical man. The complete triumph of the opinion of the medical witnesses was illustrated in the case of Willie Meyer, related by Dr. Bauduy, and the correct diagnosis made was of signal benefit in the prevention of a great fraud.

The speaker, in his paper, had not gone into what might be called the therapeutics of feigning, as this is a very large subject in itself. He would therefore not enter upon a review of the remarks of Dr. Williams and other members, upon the various agents made use of in the detection of feigning.

St. Louis Obstetrical and Gynecological Society.

THURSDAY, APRIL 19, 1894.

* * *

Hystero-Epilepsy.

Dr. Prewitt.—The history of the case I wish to report is one of hystero-epilepsy. The woman was brought to me from Caloway County last Thursday and I operated on Saturday. Since the birth of her last child some years ago she has not had good health; at her menstrual periods she has had more or less disturbance, spasms, etc. Something like ten years after the birth of her last child she had something like a miscarriage; the doctor said it was a false conception, but the physician who brought the case to me did not see the specimen at all; but these attacks or spells which had come on primarily at the monthly periods had become more severe and were no longer limited to the period of menstruation. They assumed a more decided epileptiform character until within the last few years they have been markedly epileptiform with frothing at the mouth, unconsciousness, etc. In fact, a week before she came down she had these attacks four nights in succession and mostly at night, until the doctor stated her mind began to be affected, and she herself said that she felt like she was going insane. She had been subjected to all sorts of treatment without doing any good. The attacks became more frequent and severe and more emphatically of an epileptiform character. I made an examination

and could not find the ovaries at all, but there was excessive tenderness, in fact, she complained so much when I attempted to make an examination without chloroform, that I gave her chloroform in order to make an examination, and I could not find any ovaries; and could not reach them. I put her in the Edibold position and tried the introduction of the finger in the rectum and one in the vagina but I could not find the ovaries; they were not enlarged I felt pretty sure. Still the history of the case was such that I thought best to open the abdomen, which I did, and I found that the ovaries were adherent more to the sides of the pelvis than to the floor, they were tucked under the borders of the broad ligament and it seemed to me they were stretched out over the sides of the pelvis rather than to the floor; they were quite adherent by fibrous bands and I had some difficulty in getting them detached so I could bring them out. The left ovary seemed to be very little diseased; there were one or two little cysts in it. The right was decidedly cystic and somewhat enlarged. Since the operation she has been doing very well, in fact she is ready to go home, although the operation was only done on Saturday; she has had no indication of any attack since. The patient was 42 or 43 years of age and was menstruating regularly. This is one of the cases where the propriety of the operation may be questioned, and yet her condition was getting to be such that something had to be done, because the woman seemed to be losing her mind and the condition of the ovaries, the adhesions and the extreme tenderness indicated a very marked degree of irritation which had gotten to be a neurosis that led up to this condition of things.

I remember that in 1889 I had a case equally marked where the woman was younger than this patient; she had severe attacks, and I saw her in several of them myself; she had one after another for twenty-four hours in succession—very violent attacks. They had come on ordinarily at the menstrual period, but were not limited to that period. In that case I removed the ovaries and found them enlarged and cystic, etc. She never had an attack after that. I reported the case in the St. Louis Medical Society and the neurologists pitched into me decidedly; they doubted the diagnosis and questioned the existence of such a thing as hystero-epilepsy and predicted that the operation would not relieve her. But it did relieve her; the operation was done five years ago and she has never had an attack since,and is now a strong, hearty woman doing more or less of the work on a farm in Illinois. The case was certainly completely relieved by the operation and her condition before that had been completely miserable; she had been subjected to long protracted treatment in Illinois.

Dr. Lemoine.—What was the condition of her ovaries?

Dr. Prewitt.—They were enlarged and cystic. In the first case there were not adherent, in the last case they were; they were fibrous bands binding them down and I think the trouble was due to that fact. There was extreme tenderness upon digital examination, so much so that I could scarcely make any examination at all, but they were not enlarged, as I was satisfied before operating, because I could not detect them.

Dr. Papin.—What has been your experience with the use of nitrate of amyl in arresting or preventing the attack?

Dr. Prewitt.—I have never used it in these cases.

Dr. Boisliniere.—Have you ascertained whether these attacks happened when the woman was by herself?

Dr. Prewitt.—They always happened at night.

Dr. Boisliniere.—Was anybody in the room with her?

Dr. Prewitt.—Not that I know of.

Dr. Boisliniere.—That is the distinction between true and false hysteria; the woman never has false hysteria when she is alone. Are you sure that the usual remedies were pushed to the extent that they ought to be used?

Dr. Prewitt.—In the first case I tried the effect of the bromides very freely and very ineffectually; I gave thirty or forty grains every three or four hours, but it seemed to have no effect, but she had very violent attacks one after another and lasting sometimes twenty-four hours.

Dr. Papin.—I have prescribed the nitrate of amyl in a great many instances, but I never had occasion to test it thoroughly until my last case, which gave me the data to go by. A lady 40 years of age came to me with these epileptic attacks, true epilepsy. She had from four to six attacks during the month, principally at the time of her menstruation. I found nothing the matter with the ovaries. She had decided premonitory symptoms and would often seek some position so as not to hurt herself. I gave her the solution of nitrate of amyl one drachm to the ounce with directions how to use it and in the course of a few months she came to me again and stated that she had had at first three or four attacks as usual but she noticed they came less frequently than before. The last time I saw her she was laboring under a great deal of excitement, having had some domestic troubles, and whilst she was speaking to me I noticed a change in her contenance and she calmly took out the bottle of nitrate of amyl and poured a few drops on a handkerchief and just as I was placing it to her nose she went into a violent attack. I allowed the thing to to go on for a moment or two until she became purple, with frothing at the mouth, etc., then I applied the nitrate of amyl, and in a few minutes the red appearance of the face showed its influence and it soon passed off, and her husband said it was the shortest attack he had known her to have. This was about four or five months ago; she has been at my office twice since that but she reported that she had had no attack for nearly five months. This is only one clinical case, not enough to establish a rule, but I was in hopes Dr. Prewitt could shed some light on the influence of the drug in these cases.

Dr. Lemoine.—How do you use the nitrate of amyl.

Dr. Papin.—I put a few drops on a handkerchief and let the patient inhale it; it has a very disagreeable odor.

Dr. Gregory.—I rise to say that I believe we only hear the successful cases reported. I have met with two cases that were unsuccessful and neither of them has been reported.

Dr. Lemoine.—Were these your cases?

Dr. Gregory.—They are my cases and I would ask Dr. Scott to report the case he called me to see two or three years ago.

Dr. Scott.—I reported that to the Society immediately after it happened.

Dr. Gregory.—The doctor knows that in that case these nervous symptoms which have been so graphically described were present and had lasted for several years and it was supposed that this was a proper case for the removal of the ovaries as the last and only hope. The operation was performed and I believe it was well done, and the woman survived several months, and so far as the operative procedure was concerned it was a success, but the woman was not benefited and she died after some time suffering all the time.

Dr. Scott.—For three weeks after the operation she was comparatively comfortable

Dr. Gregory.—Another case, to which I was called in consultation, was that of a young woman who had all these nervous symptoms that we see and read about in the medical journals, coming on in paroxysms; she was bedridden with a variety of nervous troubles and was perfectly helpless and a charge upon her mother and it was thought as she had undergone a long course of treatment without result, that this was a proper case for this operation, and the woman was sent to the sisters' hospital, and was operated upon and we found that the ovaries were not enlarged at all, they were scarcely perceptible. We did find a condition that looked like the condition of the tonsil which we sometimes find; those who have examined the fauces in the dissecting room know how the tonsils look when they are enlarged and there are ridges and little follicles in the side of the tonsil. We found these follicles; and the broad ligaments on both sides were tied down. However, we removed the ovaries, but the woman did not recover her mind and she finally died in a maniacal condition a number of weeks after the operation. I mention this case because it has never been reported at all. I have read of a great many cases and heard of them in the medical societies, where the operation has been successful, but we do not hear of the unsuccessful cases.

Dr. Boisliniere.—Do you recollect the case that we saw together, and that you operated on? That case was full of interest to me from the fact that it had been under my care several months and the patient suffered so intensely that several physiicans were called in to relieve her. Her sufferings were so intense that we had to give her hypodermic injections to relieve them. Many other prominent gentlemen saw the case, and one of these advised her husband to have the ovaries removed, giving his opinion that if she did she would get well. The husband spoke to me about it and I said there was no disease of the ovaries which would justify us in removing them, none at all. However his wife was pursuaded that the ovaries should be removed, and the husband wanted to do everything possible to relieve her, so after a consultation in which Dr. Gregory, Dr. Tupper and Dr. Gregory, Jr., took part, the operation was done, but I said the operation is done against my better judgment, because I felt there was no disease to warrant the removal of the ovaries. The ovaries were removed but they were not diseased. The operation was well done, and I have the ovaries yet, I know I kept them for months. For probably two weeks the patient got along very well and we began to hope that the operation would be a success so far as her troubles were concerned, then the old trouble came back with renewed force and it absolutely wore her out.

Dr. Gregory.—When I was called in to make an examination in the case the operation was a foregone conclusion; they had already concluded to do the operation,

Dr. Boisliniere. — The ovaries were perfectly healthy.

Dr. Papin.—I think we should not perform these operations unless there are indications pointing clearly to it; we should not do the operation simply because the patient or her friends insist upon it; I would rather give up a patient than operate unless it is advisable in the judgment of the majority of those present.

Dr. Lemoine.—Of course there are cases where no operation should be performed; but in Dr. Prewitt's case the ovaries were diseased and this disease justified the operation. I know of a case where both ovaries were removed and the woman was not benefited, she suffers as much to-day as she did before the operation.

Dr. Boisliniere.—In the case I refer to the patient was not benefited.

Dr Lemoine.—It was not due to ovarian disease.

Dr Gregory —In Dr. Prewitt's case it was not true ovarian disease so far as he could determine before the operation. He could not find the ovaries at all; as it turned out the ovaries were diseased, but he could not tell that from the examination before the operation; he could not tell positively that they were diseased.

Dr. Gehrung.—There is no doubt in my mind but what surgery may cure a number of cases of hystero-epilepsy; so also it may be cured by the ordinary gynecological means; but there are a great many cases that persist in spite of any treatment and under all circumstances. Then in those cases that are relieved by surgical means, the question remains whether they could not have been relieved by other means. There are certainly cases of diseased ovaries reported, and we know that we frequently find diseased ovaries from displacement, from constriction of some kind, which, if replaced, supported, will become entirely healthy ovaries after a time. So the finding of a diseased ovary is not proof that the ovaries are the cause of the trouble with which

the patient suffers nor, secondly, that their removal is necessary or that the disease will be cured by the removal of the ovaries. Sometimes the performance of a surgical operation will so shock the system as to produce an amelioration of the symptoms. By mechanical means I have succeeded in curing quite a number of cases of hystero-epilepsy. In some of these cases the broad ligaments are stretched out like two wings by being pulled over on the pelvic surfaces; I found this stretching out of the ligaments putting the different tissues on a tension and it frequently causes a reaction of the nervous system, and this is the case often in cases of hysterics and hystero-epilepsy. The question then is are those distended ligaments really stretched out or is it merely a displacement of the generative organs of the woman, perhaps by falling out of position that the ligaments are put on the stretch. If such is the case, then certainly the mechanical means ought to be sufficient, by liberating possible adhesions or by supporting the organs in a right position by relieving the stretching of those ligaments—by mechanical means, ought to be sufficient to correct the case. I have seen quite a number of cases so corrected. This with the combination of very badly diseased ovaries is often the cause of these troubles. If the stretching of the ligaments can be relieved by mechanical means the cases may get well. I can not say that all get well under the use of mechanical means. I have frequently found that hystero epilepsy is based to a great extent in combination with troubles which have caused losses of blood, where the patient has been reduced by suppuration or by excessive menstruation or by hemorrhage; these cases of hystero-epilepsy can frequently be observed in these cases. In such cases I have often found it of advanatge to resort to repression of menstruation, so cases may be cured by that means in addition to the ordinary measures supporting the overies in place, by giving the patient blood enough to live again. Now it has sometimes been said that this condition of hystero-epilepsy is a condition apart from disease of these organs and it is looked upon as something which cannot be ameliorated or at least cured. In my experience the disease exists and depends to a great extent, according to my observation, on some disease of the genito-urinasy organs; there is some disturbance there, it is not a purely nervous phenomenon I feel perfectly sure; and these attacks will come on whether the patient is alone or in company, but the patient can frequently control the attacks. The patient can often postpone the attack, but it will come on finally and perhaps be more violent than usual. I have noticed for instance in a certain clinic in Paris, that frequently a patient was simply referred to with: Oh, she is an hysteric! and has such and such phenomena! and this is taken to account for the whole trouble. I wonder really that the medical profession can come to a standpoint such as that, and say she is simply hysterical as if could not be treated and interfered with—just let the patient go on in her misery, as if it was merely a congenital or constitutional defect or brain disease. It is not so, such hysterical cases can frequently be improved or cured by timely and sensible interference. I believe I have stated that I acknowledge that there are cases which surgery can really cure and where a resort to surgical means would be a necessary practice; but it is almost impossible to say which are those cases.

Dr. Papin.—From reports made to-night and your own observation, don't you think surgery has a good deal of guess work in many of these cases? I think Dr. Gehrung is right in regard to the beneficial results in many cases of mechanical support. I use pessaries and I occasionally find the Gehrun pessary very excellent.

Dr Boisliniere.—I think surgery is perfectly justifiable when we have good grounds to suspect a diseased ovary or tube. Where a case resists all therapeutic measures and is hopeless we are justified in resorting to surgical methods. I think in these desperate cases the surgeon is justifitable in operating.

Dr. Papin.—If he knows what he is about. If a surgeon is justified in removing the ovaries in a woman in this trouble because everything else has failed, why is he not justified in removing the testicles in a male under like circumstances.

Dr. Prewitt.—I think, Mr. President, that after all the known means of treatment have failed, and the patient is in a hopeless condition, the surgeon is justified in operating and removing the ovaries; the cases that I operate upon I look upon as extreme cases, those in which everything else has already been tried. The case that I operated on a few days ago has been under treatment for ten to fifteen years.

Dr Gregory.—Here then is a case which for ten or fifteen years has been subject to nervous irritation, and the doctor reports this case and says the woman has been under treatment all this time, and in all probability the woman now has central nervous trouble, that is not absolutely certain, but it is probable; this center has been assaulted during all these years and the ovaries are removed, and I say that if there is any relief in such a case it will probably only be a temporary one. It is but reasonable to suppose that during all these months and years of nervous suffering the central nervous system has become affected;the trouble has become as it were central, there have been changes in the central nervous system corresponding to the peripheral condition and if you remove the source of peripheral irritation you can not deliver your patient from the centric trouble. There is such a thing as an epileptic brain established, and when once the neurosis is established it becomes a function of the center—a disease of the central system. I agree with the speakers that if it can be shown that there is a morbid condition of the ovaries, we are justified in operating unless there is something which contraindicates the operation, but I am opposed to an operation for the removal of the ovaries unless it is manifest before hand that the ovaries are in a morbid condition. In a large proportion of these cases even where an operation is

performed such a condition of the ovaries is not proved before hand; it may be suspected but it is not absolutely known. In Dr. Prewitt's case it seems that he found nothing, he could find no ovary at all; after he opened the abdomen he did find the ovary and he found adhesions and unquestionably the ovary was not in a perfectly healthy condition, but this was only discovered after the operation.

DR. PREWITT.—There was extreme sensitiveness, however.

NOTES AND ITEMS

Rutherford College of North Carolina has conferred the honorary degree of LL.D. upon Dr. Wm. C. Wile.

Dangerous "Diabetic Flours" containing as high as sixty-six per cent of starch, and yielding the same amount of glucose as wheaten flours, are to be found in the market.—*Medical Record.*

Test of Flour for Diabetics.—A weighed quantity of the flour is taken and the carbo-hydrates converted into glucose by treating it with sulphuric acid in an inverted condenser for a few hours, and then estimating the amount of glucose by the alkaline copper test. This process with care gives absolutely reliable evidence.—*Lancet.*

The Pathogenesis of Death from Burns.—Koch (*Wiener med. Wochenschr.*) in a series of researches on 32 cases of severe burns, of which 16 patients died, confirms the already reported observation of Tappeiner, that there is a loss of blood plasma. This author found in the cases of death that the specific gravity was between 1065 and 1076, and he concludes from this that in contradistinction to the normal, the blood in cases of severe burns easily loses its plasma. This loss is not a true decrease of plasma, but is caused by the change in the red blood corpuscles and the toxic substances arising therefrom. This change is not seen or does not arise in the neighborhood of the scab, but at the point where the blood, warmed to form 40°–60° C., becomes functionless. He believes it is worth while to use intravenous injections of normal salt solution in these cases.—*Am. Jour. of the Med. Sci.*

℞ Atonic Amenorrhœa.
Ext-Sabina Fluid ʒi.
Elix Bubrans ʒiv
Sig- Dessertspoonful
four times a day.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Record of a Few Cases Treated with a New Antiseptic Compound.

BY T. E. WHITE, D.V.S.

1. A case of "sitfast" caused by a bruise from the saddle. These wounds are stubborn and slow to heal. Being hard and leathery and firmly attached to the surrounding tissue, the only recourse is, to dissect them out carefully with a knife and then dress antiseptically. Heretofore I have used either carbolized vaseline or iodoform ung. My attention having been directed, by my old professor, Dr. Liataud, Dean of American Veterinary College, New York, to Sennine, by seeing this product so highly commended, as possessing remarkable antiseptic powers, I concluded to give it a trial. Combining the Sennine—which is a very fine white powder of a sweetish taste, and slightly astringent—with vaseline, I applied it to the sore; being of a delicate pleasant odor I found it much more preferable to use than iodoform with its persistent disagreeable smell. Its action was most satisfactory, the wound healing promptly with little or no attending pus and in a much less time than where other preparations were used.

2. A case of speedy crack. These breaks are the bane of all horsemen; they are not only difficult to heal, but they are constantly recurring. In the case under treatment I gave the fissure a thorough dusting with the Sennine, and the crack healed in a little while. The form in which this medicine is furnished renders it especially attractive to handle; being put up in small tin boxes with perforated lid, a dry application is only the work of an instant.

3. Case of retention of placenta in cow. In ruminants the placenta is localized; in the mare it is diffused. Shreds of the placenta in cows are often tenaciously retained by their colytedon attachments even in a normal parturition and if not antiseptically treated, the case tends to one of septic metritis. I treated such a case the latter part of last month. After removing as much as possible all decomposing membranes I used the Sennine in water as per formula, injecting vagina and uterus by means of a gravitating syringe. That the medicine possesses powerful germicidal properties was soon demonstrated by the almost immediate change in the character of the tissues; the parts, freed, by the action

of the medicine, from any further developments of the poisonous micro-organisms and their products, began quickly to assert their reparative powers and a rapid recovery soon followed.

4. Five cases of barb wire cuts. Stock belonging to Mr. M. broke out of the pasture on the right of way of the M. O. P. R. R. The train coming along at that time the stock (six horses and a mule) became scared and ran full speed down the track. Five of the animals struck the wire of the fence so forcibly that the necks and shoulders of each were cut in numerous places, some of the cuts being very deep; one mule was so terribly lacerated that it was thought advisable, by those who saw the animal, to destroy it, but the owner having the other four to be cared for concluded to wait and see what could be done. I was sent for and when shown the mule, I greatly surprised the owner when I mentioned that it could be cured. After trimming off all ragged and detached edges with the scissors the wounds were carefully washed with warm water to which a little salt was added. Sennine in its powdered form was then well dusted into and over the wounds. This treatment has been kept up for three weeks, the wounds are healing smoothly, the animal is steadily improving, and to all appearances is as comfortable as if the sores were fully healed. The cuts in the other four were subjected to the same treatment, but being much less severe are now almost entirely healed and all with *less marking* than I have ever had with similar cases.

So far as my experience with Sennine goes, this antiseptic surpasses all others in the quick and excellent results given.

Being entirely free from any poisonous properties, it must have a distinct value in all such cases where the animal would have an opportunity to gnaw or bite the wound, thus giving it an unmistakable advantage in this respect over iodoform, carbolic acid and corrosive sublimate.

Under its spray abscesses and bursæ should certainly be opened with greatly reduced risks of destructive inflammation and suppuration. Its freedom from smell, taste or irritant effects make it a most agreeable substitute for some of the nauseating drugs indicated in like uses and from the results obtained I am led to believe that Sennine must rapidly commend itself to every practitioner who has occasion to employ it.

Stenosis of the Ileum and Rupture of the Stomach in a Horse.

BY G. C. LOWE, M R C.V.S., LONDON.

In the forenoon of February 21 we were called to visit an aged brown nag gelding in fair condition. He had been off his feed for about twenty four hours, but had performed his work—trotting with a light van—throughout the previous day, and was reported to have appeared merely dull and uneasy. After his return to the stable in the evening, however, the horse evinced signs of increased uneasiness and pain, and was inclined to be violent. Two or three ready-made colic mixtures of an oleaginous nature were administered by the stableman during the night, but they did not appear to influence the animal. No dung passed from him. Upon examining the horse about 12 o'clock the following morning we found him dull and uneasy—not inclined to be violent; his extremities and ears were cold, mouth and tongue dry, temperature 102½°, pulse hard, small and slightly accelerated. More clothing and bandages were applied, and two or three hours later the horse was walked to a more convenient stable about a mile distant, but on the journey showed a great disinclination to move. Upon arriving at this destination his condition appeared to be much the same as at noon. Enemas of warm water were administered, and a few hard feces, light in color, were evacuated. Four drachms of chloral hydrate cryst. were given in a draught, and the animal allowed to act as he pleased in a loose box supplied with plenty of straw. Throughout the following day the horse gradually became more uneasy, frequently lying down and getting up, not, however, rolling or giving indications of spasmodic pain. He began to sweat, and continued to do so. His mouth became exceedingly dry and foul-smelling; conjunctival and buccal membranes injected, and of a dirty yellow color; expression of eyes and face anxious and pinched; and respiration quickened. The temperature rose to 104°, and the pulse became much more accelerated, still remaining hard and small. No tympany was noticeable. During the day enemas were given, but failed to extract more feces; two doses of chloral hydrate (ʒiv in each dose) were also administered. The horse, however, rapidly became worse, sweating profusely, and showing great anxiety, but by no means violent. Water was offered to him, and a pailful kept in the box, yet he persistently refused to drink any. During the night of the 22d he died. As regards the horse's previous history, it was stated by the stableman that he had never shown signs of colic or any other indisposition, with the exception of an attack of inflammation of the lungs about two years ago.

At the post-mortem examination the abdomen was found flooded with a dirty-colored watery fluid in which were scattered small pieces of ingesta. The double colon upon being hauled out struck one by its apparently dwarfed nature; its contents were scarce in quantity and very dry, and distributed irregularly along its course. The floating colon and rectum appeared normal. The small intestine presented the following appearances: At the ileo-cecal valve and for about two feet immediately anterior to that the intestine was constricted, and its wall, owing to hypertrophy of its muscular coats, had a thickness of two inches, causing stenosis; the wall then became gradually attenuated and the caliber of the intestine increased, and this dilation of the intestine extended uniformly throughout the whole remaining portion of its length, the interior being filled with the same kind of watery fluid and ingesta as

that which flooded the abdomen. The intestine was dilated almost to bursting, but no rupture of its walls had taken place. The stomach was found to be ruptured on the posterior face of the right sac, a little above the great curvature. It presented a very unusual appearance. The peritoneal and muscular coats had given way along a nearly straight line about seven or eight inches in length, and the edges had separated for about a finger-length, but, save for a circular hole about three inches in diameter at one end of the rupture, the space between the separated edges of the peritoneal and muscular coats was completely bridged over by the intact, but stretched, submucous coat. Strange to say, the mucous membrane was ruptured along two lines nearly corresponding with the separated edges of the ruptured outer coats, and the piece thus isolated remained adherent to the portion of the submucous coat which filled up the gap in the muscular and serous coats.—*Journal of Comparative Pathology and Therapeutics.*

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C.P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

Observation shows generally the discharge becomes less and less sanguineous as we go lower in the scale of organization, so that in the lowest creatures we see only a mucus exudation, perhaps but slightly, if at all, tinged with blood. In all presenting a vulvar aperture, there is swelling with turgescene of the genital orifice; but the exhalation of blood appears to be mostly, if not entirely in relation with, and subordination to the evolution of the sexual organs, so that, in the lowest forms it may be represented merely by an oderous flux. Probably undiscovered exceptions to this law exist. It is believed that their discovery would not invalidate the general truth of the law propounded; they would merely illustrate what is well known in biological inquiries, that variations and divergences for adaptive purposes are not uncommon in correlation with certain conditions of environment, nutritional, climatic, or other. Pouchet recognized some such relation as is indicated above, but he seems to have thought that it also bore relation to the size of mammals; and he regarded a copious intestino-form uterus with its extensive mucus membrane, as accommodating a larger volume of blood than the thicker small uterus of woman and the simiæ was capable of doing. He says, the quantity of blood emitted by the animal, is absolutely related to the structure of its uterus but the afflux of the fluid towards the genital organ is always proportionate to the size of mammals. The species in which the genital apparatus approaches more that of woman, and which as in monkeys have a small and coriaceous uterus, are manifestly regular, and show an abundant external flow of blood. We have seen that the assertions of Buffon, Curier, Burdach, G. Sainte Hillaire, Rengger, Ehrenberg, Raciborski and Isidore Sainte Hillaire have no doubt in this respect." And again: "Thus, then menstruation in the sow is a demonstrated fact. As in human species, there is an emission of blood; but if this is not abundant it is because this fluid is found in great part poured in the immense extent of the internal generative apparatus."

The generalization I have independently worked out and now venture to propound differs from Pouchet's, in that I regard the relation of the catamenial function, in respect to its sanguineousness to the generative organs, as being, in the main, one of subordination to the extent of their evolution, not merely to the accidents of shape of the uterus or size of the creature. Aberrations in, exceptions to, or divergencies from the law, may in time be discovered, or may declare themselves in the course of inquiry; and the explanations of exceptions, real or apparent, may be found in, or be accessible to, such causes as difference in the plasticity or adaptability of animals to their environment; in the tendencies of some species to organic degradation, or to some other factors as yet unknown; but with the allowances scientific caution would prescribe, it is believed that the general accuracy of the evolutionary law, now provisionally advanced, will become established as observations are extended. Seeing the extreme difficulty of instituting adequate personal inquiry into the phenomena as they are presented in all animals by one individual it is to be hoped that all who enjoy exceptional opportunities for observation will be so good as to make and record them, so that, in process of time, an accurate record of facts may be garnered.

With ample material furnishing reliable data, further conclusions may become warrantable, and correlations be discovered that are now unsuspected. For example, the flux may be found to bear some relation to the evolutionary or hemoglobin value of the red cells. Probably diet influences it also; and possibly, it may bear some relation to the number of ova, for in the multiparous carnivora the manifestations of heat, including the flux, are more sustained than in the uniparous ruminant.

In illustration of my position the following passages, borrowed from Gegenbaur, may be usefully quoted:

"Two completely separated uteri open into a vagina in many rodentia (lepus, sciurus, hydrochoerus, etc.), and in orycteropus. In other rodentia the two uteri are only united for a short distance into a common opening into the vagina (*e. g.*, cavia, coelogenys, mus.). This leads to the arrangements seen in the uterus of insectivora, carnivora, cetacea and ungulata, where a single uterus is continued into two separate cornea which are continued in the oviducts. When the common portion of the uterus is elongated the cornua are shortened; this is the case in the chiroptera and prosimiæ; in the simiæ as in man, there is a single uterus (C), which receives an oviduct on either side. The cornua of the uterus, and the common uterus itself, vary very greatly in length; so too does the vagina, the mucous membrane of

which may be variously modified. In many rodents (Logotomus) a certain portion retains its original double nature. Its opening into the urogenital sinus is some times distinguished by a temporary fold of mucus membrane, which is known as the hymen. This has been observed in the ruminantia, carnivora, etc., but it is in the simiæ only that it has the same relations as in man. The primitive Muellerian duct, which only served for the passage of the generative products, is, therefore, differentiated into three parts, owing to the great physiological changes that happen to it; and of these parts, the first, or Fallopian tube, alone retains its primitive relations.

"The ovaries, which are generally small, vary greatly according to the relation that obtains between the follicles and the stroma of the ovary. In a large number of mammals they are racemose in form. They seldom retain their primitive position, and generally travel towards the pelvic basin, or with their oviducts are com pletely enclosed in it. They are always in close rela tion to the oviduct, or rather to its infundibular coelomic mouth, for a process of the margin of the ostium extends to the ovary. The mesenteric folds (ligamenta uteri lata) support the ovaries and oviducts and unfrequently unite with the pouch that encloses the ovary to form the mouth of the oviduct (as in the carnivora)."

We may now examine the evidence furnished by ob servation upon the females of the lower animals at their periods of heat. It will be apparent that there is singular accord in the statements of competent observers upon the phenomena as they present themselves in the various animals; and that, in all the creatures subjected to inquiry, some more or less conspicuous flux or exudation occurs, the majority exhibiting manifestations partaking in varying degrees of a sanguineous character.

In observing domesticated animals, and still more those in a state of captivity, the same allowances for individual variations should be made as could be made in regard to women; in whom we find laborious life and hard fare to some extent diminish the flow; while ease, luxury and plenty (not excess) promote it. Again, racial peculiarities, with the lower animals as with the human species, may unquestionably affect the character of the flow.

Very slight changes in normal conditions affect the capacity for reproduction in all animals; hence, many creatures fail to breed in captivity, while on the other hand domesticable creatures have augmented powers. Mr. Darwin's statements to this effect are numerous and weighty. In "Animals and Plants under Domestica tion," vol. 2, pp. 143 4, he says: "It would appear that any change in the habits of life, whatever their habits may be, if great enough, tends to affect in an explicable manner the powers of reproduction. The result depends more on the constitution of the species than on the nature of the change; for certain whole groups are affected more than others; but exceptions always occur, for some species in the most fertile of groups refuse to breed, and some in the most sterile groups breed freely. * * * Changed conditions of life have an especial power of acting injuriously on the reproductive system. The whole case is quite peculiar, for these organs, though not diseased, are thus rendered incapable of performing their proper functions or perform them imperfectly." Ibid., p. 256. We know that certain groups of organic beings, but with exceptions in each group, have their reproductive systems much more easily affected by changed conditions than other groups—for instance, carnivorous birds more readily than carnivorous mammals, and parrots more readily than pigeons; and this fact harmonizes with the apparently capricious manner and degree in which various groups of animals and plants vary under domestication."

[TO BE CONTINUED.]

Sennine the New American Antiseptic.

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American Veterinary College.

NON NOBIS SOLUM. May 23. 94

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Yours truly

A. Haviland

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Paralysis.—Its Differential Diagnosis.

BY JOHN PUNTON, M.D, KANSAS CITY, MO.

Professor Nervous and Mental Diseases, University Medical College; Professor Dental Neurology, Western Dental College; Neurologist to All Saints, Scarrit Training School, Bethany and Kansas City, Ft. Scott & Memphis R. R. Hospitals, etc.

The various complete movements of the human body are produced by organs termed muscles which are excited to action through the medium of the nervous system. The marvelous mechanism by which muscles act singly and together, as well as modify each other's effect, is full of interest and importance, although its bearings are so extensive that were I to go into detail, it would carry me beyond the range of what might be inferred from the subject of my paper. Time will only permit me to remind you of a few of the more salient facts of their physiological correllation in order that we may better understand their pathological defects. That the nutrition of muscles is largely under control of the anterior gray substance of the spinal cord, there can be no doubt, and that its influence is exerted chiefly by means of the motor nerves which emanate from the cells of this region, all authorities agree.

The nutrition of muscles, therefore, largely depends on the integrity of their motor nerves, and as the bulk of a limb is composed chiefly of muscular tissue any interference with its nutrition is quickly shown by alterations in size as well as its normal movements. Observation and experience teaches us that the conditions are very few indeed in which motor changes originate in the muscles themselves, although they are to be found in cases where there is a general impairment of nutrition such as chronic wasting diseases, anemia, and in some acute diseases. It appears to be the chief cause also of muscular weakness that so often succeeds all forms of fevers as their sequellæ. Conditions of ossification of muscles and the disease known as pseudo-hypertrophic paralysis are also conspicuous examples, but in almost all other conditions loss of power of muscular movements is dependent upon the state of the nervous system either directly or through defective nutrition of the muscles or both. Now this defect of muscular movement may present every degree from slight weakness to absolute loss and the term paralysis has long been applied to express the condition although different terms are used to express its true nature and character. Hence we have a complete, incomplete, general, local or partial paralysis. The latter condition is also expressed by the term paresis. Technical terms are also used to explain its general characteristics, hence a physician may be called upon to recognize at least five different varieties of paralysis, viz., Monoplegia, Hemiplegia, Paraplegia, Hemipareplegia and General. Then again pathologically speaking we may classify all the varieties of paralysis into two groups, viz., Myopathic and Neuropathic. I have already stated that the conditions are few in which morbid changes occur in the muscles themselves, hence a myopathic paralysis is comparatively speaking rare. On the other hand, a neuropathic paralysis is very common and depends upon some cause which either prevents the action or volition upon the central fibers which ultimately supply the voluntary muscles or else the cause obstructs the transmission of this action at some point in its course from the brain to the muscle. Loss of motor power or paralysis, therefore, may result from anything which tends to impair the generating power of the nerve cell or the conducting power of the nerve fibers which spring from the cortical centers and continue on through the interior parts of the brain via. the internal capsule, crura cerebri, pons and medulla, thence to the anterior and lateral colums of the spinal cord under the name of the direct and indirect motor tract terminating in the gray substance of the anterior cornua of the spinal cord and again continued in the form of nerve trunks and branches to the voluntary muscles. It is possible, therefore, to classify the disturbing elements or lesions causing all varieties of paralysis into three groups, viz.:

1. Those situated in the brain.
2. Those of the spinal cord.
3. Those of peripheral nerves.

A thorough knowledge of the functions of each of these organs is absolutely indispensible for all true succes, in accurate scientific diagnosis, for it can truly be said that the highest attainment in the medical art is the ability to associate symptoms with lesions and this

the extremities before the bulbar symptoms appear. Chronic bulbar paralysis is generally due to atrophic changes, or atrophy occurring in the nuclei of these several nerves following back along the floor of the fourth ventricle. However, the condition sometimes involves the fibres of the nerves themselves rather than the nuclei. When this degeneration occurs in the fibres of the seventh, it is an interesting fact to notice that you have a spastic condition of the lips instead of atrophy. In the one instance the disease involves the nucleus of the seventh, and in the other it attacks the fibres of the nerve after it leaves the nucleus. The spastic paralysis that we find in this case is due to a sclerosis of the pyramidal fesciculus, probably in the pons and in the medulla.

The other noteworthy facts in this case, besides the involvement of the extremities in a spastic paralysis, is the family history of the woman. I reported last fall, two cases of Friederich's ataxia, in two little girls, sisters, photographs of whom I presented when I read the notes of the cases. This patient is the mother of those girls. At the time I reported these cases, I stated that there was nothing unusual in the family history. Although we inquired particularly, we could find only one case of neuropathic disease in the family, and that was in an uncle of the girls, a brother of this woman, who had had a chorea for many years of his life. In examining the patient, however, we found nothing remarkable, except that he was a neurotic person and possibly addicted to the use of chloral or some other drug.

We have, however, in this instance a degenerative disease attacking the upper portion of the cord, the bulb, which, as we know, anatomically and physiologically, is really an expansion of the upper portion of the cord. In other words, we have an hereditary tendency probably showing itself in the mother after it had already shown itself in the children.

* * *

Dr. Robert Funkhouser related a case of "Left Hemiplegia" in a child one year old. It was evidently the result of a fall from the bed, sustained by the child during the night previous. There had been no loss of conciousness after the fall, the child is bright, does not seem to have any pain, and is good-natured. There was some difficulty in nursing, and also a peculiarity about the tongue and also with the expression of the face when laughing. Careful examination of the head failed to reveal an injury or contusion, and the symptoms were due, in all probability, to a hemorrhage or serous effusion in the neighborhood of the tissue of Rolando.

Dr. Fry said that the trouble in the case reported by Dr. Funkhouser is probably not in the cortical region, but deeper down in the brain where the fibres of the pyramidal fesciculus converge, and where a small lesion would involve a great many fibres. This view may be assumed from the clinical history; namely, the mental condition of the patient, no tendency to coma, no headache, no indentation about the skull and the involvement of the who e side of the body by the paralysis. Cases of this character must be closely watched as there might be a subsequent effusion of blood in the cortical region which should be relieved by an operation.

Cases of cerebral hemorrhage in children are of great interest. Dr. B. Sachs, of New York, a few years ago collected a large number of cases, giving the clinical history of some and showing how far we may err in our diagnosis. Intra-cerebral hemorrhage, hemorrhage occurring in the vicinity of the internal capsule, is rather rare in children but does occur.

Dr. Joseph Grindon, referring to Dr. Fry's case, called attention to the peculiarity of the heart's action in these cases. He had observed some in which it was very rapid, and others in which it was slow. These symptoms are due, in all probability, to the close proximity of the ganglion of the pneumogastric to the seat of disturbance. He recalled several cases seen at the Poor house, in which the atrophy of the lip muscles was well marked, as was also the symptoms of coughing and choking resulting from the descent of food particles into the bronchi, at times causing fatal lobular pneumonitis.

* * *

The discussion of Dr. Fairbrother's paper was resumed as a special order of business.

* * *

Dr. Fry said there was one point brought up in the discussion last Saturday night that will bear illustrating again; namely, the point of feigning diseases which is unintentional on the part of the patient. Some hysterical patients often present symptoms which are very hard to distinguish from genuine, so that a diagnosis is very difficult, even by experienced persons. Very much akin to those hysterical feignings is the condition that we find in neurasthenic patients. We are not sufficiently well acquainted with the symptomatology of neurasthenia to decide at all times whether symptoms are genuine or not. Neither have we the data in such shape to convince jurors and persons who have not paid particular attention to the symptomatology of neurasthenia. A distinction should also be drawn between the neurasthenic approach to other conditions, and the hysterical imitations of other conditions. For instance, we often find area of anesthesia in neurasthenic persons, yet we are not warranted in concluding that the neurasthenic condition is not genuine because we cannot demonstrate the existence of pathological conditions of the central nervous system.

It is just on this point that some of the most important law suits hinge to-day, and experts will continue to be opposed to one another.

In reference to the two tests for the detection of pain mentioned by Dr. Bremer, the speaker did not believe that they are always incontrovertible. The instance was mentioned of a non-hysterical woman suffering with ovarian pain, in whom slight pressure relieved the pain and caused an increase in the heart's action. The speaker had seen cases in which pressure on the ovary

increased the heart's action markedly, and where pressure on a sensitive spine produced marked dilation of the pupils.

Dr. Jacobson had had experience with cases of feigning while acting as assistant dispensary physician. In most instances the disease or injury was feigned by persons who desired a place of shelter in the city institutions. The troubles most frequently simulated were injuries to the back and poisoning.

Dr. A. D. Williams recalled instances of feigning in the army during the war. Chronic rheumatism was the favorite complaint, and one case was usually followed by a general epidemic. The cases were speedily relieved by heroic measures, such as cupping or large sinapisms.

Dr. Funkhouser related the case of an hysterical woman who was supposed to have taken poison. Her lips were red, patient vomited and complained of pain all over the body. This gradually became localized to the ovaries, and was followed by a cataleptic trance and apparent unconciousness. Hypnotism was tried but unsuccessfully. The patient threatened those about her with disclosing secrets, and gave other evidence of mal ingering.

Dr. Miller had seen a case of apparent hip joint disease in a girl 12 years of age. Later on she was found to have hysterical aphonia and regular epileptic seizures. A genuine case of hip joint disease occurred in the same house at the same time, and the symptoms of the two patients were so similar that consultants who were called could decide between them only with the greatest difficulty.

Dr. Boas cited the case of an old soldier, an applicant for a pension, who underwent the operation for stretching the sciatic nerve to convince the authorities of the justness of his claim. After the operation he improved very materially, but retained just enough "rheumatism" to draw his pension.

Dr. Fairbrother said in reply to Dr. Bremer that the pulse and pupil tests for pain are too capricious for reliability. If pain produced by pressure with the thumb will cause the pupils to dilate, or the heart's action to be greatly increased, then pain from any cause should produce the same effect. This is contrary to the most common observation.

The doctor's remarks about the contagiousness of feigning are very true, but might be improved by a little explanation. Feigning may be contracted from another case of feigning, but, what is more frequent, it may be developed from a real disorder, as in the case of hip joint disease related by Dr. Miller. One case of rheumatism in the army was often known to give rise to a half dozen cases of feigned rheumatism. This contagion may be imitation, as one child imitates another; or like certain diseases or states of feeling, it may spread from one to another by a sort of infection.

Dr. Bremer is opposed to the medical man playing detective, but surveillance is our sheet anchor in the investigation of suspected malingering. Without the privilege of watching, either directly or indirectly, our hands would be tied. This is especially so in feigned insanity. A woman who claimed to have received a shock in a railroad collision demanded damages upon the ground of insanity. She appeared thoroughly insane for several months, but, growing tired of the close watch placed upon her, removed to the most distant and out-of-the-way place she could find in the city, where she took a six weeks' vacation from her insanity.

The speaker thought the remark of Dr. Fry about the difficulty of having a diagnosis confirmed, is of great importance to the medical profession. It is something to make a diagnosis, but often quite a more difficult matter to prove it. If a man states that he has defect of sight or hearing, or that he has epileptic fits, the court will often take his word for it before that of a medical man. The complete triumph of the opinion of the medical witnesses was illustrated in the case of Willie Meyer, related by Dr. Bauduy, and the correct diagnosis made was of signal benefit in the prevention of a great fraud.

The speaker, in his paper, had not gone into what might be called the therapeutics of feigning, as this is a very large subject in itself. He would therefore not enter upon a review of the remarks of Dr. Williams and other members, upon the various agents made use of in the detection of feigning.

St. Louis Obstetrical and Gynecological Society.

THURSDAY, APRIL 19, 1894.

* * *

Hystero-Epilepsy.

Dr. Prewitt.—The history of the case I wish to report is one of hystero-epilepsy. The woman was brought to me from Caloway County last Thursday and I operated on Saturday. Since the birth of her last child some years ago she has not had good health; at her menstrual periods she has had more or less disturbance, spasms, etc. Something like ten years after the birth of her last child she had something like a miscarriage; the doctor said it was a false conception, but the physician who brought the case to me did not see the specimen at all; but these attacks or spells which had come on primarily at the monthly periods had become more severe and were no longer limited to the period of menstruation. They assumed a more decided epileptiform character until within the last few years they have been markedly epileptiform with frothing at the mouth, unconsciousness, etc. In fact, a week before she came down she had these attacks four nights in succession and mostly at night, until the doctor stated her mind began to be affected, and she herself said that she felt like she was going insane. She had been subjected to all sorts of treatment without doing any good. The attacks became more frequent and severe and more emphatically of an epileptiform character. I made an examination

and could not find the ovaries at all, but there was excessive tenderness, in fact, she complained so much when I attempted to make an examination without chloroform, that I gave her chloroform in order to make an examination, and I could not find any ovaries; and could not reach them. I put her in the Edibold position and tried the introduction of the finger in the rectum and one in the vagina but I could not find the ovaries; they were not enlarged I felt pretty sure. Still the history of the case was such that I thought best to open the abdomen, which I did, and I found that the ovaries were adherent more to the sides of the pelvis than to the floor, they were tucked under the borders of the broad ligament and it seemed to me they were stretched out over the sides of the pelvis rather than to the floor; they were quite adherent by fibrous bands and I had some difficulty in getting them detached so I could bring them out. The left ovary seemed to be very little diseased; there were one or two little cysts in it. The right was decidedly cystic and somewhat enlarged. Since the operation she has been doing very well, in fact she is ready to go home, although the operation was only done on Saturday; she has had no indication of any attack since. The patient was 42 or 43 years of age and was menstruating regularly. This is one of the cases where the propriety of the operation may be questioned, and yet her condition was getting to be such that something had to be done, because the woman seemed to be losing her mind and the condition of the ovaries, the adhesions and the extreme tenderness indicated a very marked degree of irritation which had gotten to be a neurosis that led up to this condition of things.

I remember that in 1889 I had a case equally marked where the woman was younger than this patient; she had severe attacks, and I saw her in several of them myself; she had one after another for twenty-four hours in succession—very violent attacks. They had come on ordinarily at the menstrual period, but were not limited to that period. In that case I removed the ovaries and found them enlarged and cystic, etc. She never had an attack after that. I reported the case in the St. Louis Medical Society and the neurologists pitched into me decidedly; they doubted the diagnosis and questioned the existence of such a thing as hystero-epilepsy and predicted that the operation would not relieve her. But it did relieve her; the operation was done five years ago and she has never had an attack since,and is now a strong, hearty woman doing more or less of the work on a farm in Illinois. The case was certainly completely relieved by the operation and her condition before that had been completely miserable; she had been subjected to long protracted treatment in Illinois.

Dr. Lemoine.—What was the condition of her ovaries?

Dr. Prewitt.—They were enlarged and cystic. In the first case there were not adherent, in the last case they were; they were fibrous bands binding them down and I think the trouble was due to that fact. There was extreme tenderness upon digital examination, so much so that I could scarcely make any examination at all, but they were not enlarged, as I was satisfied before operating, because I could not detect them.

Dr. Papin.—What has been your experience with the use of nitrate of amyl in arresting or preventing the attack?

Dr. Prewitt.—I have never used it in these cases.

Dr. Boisliniere.—Have you ascertained whether these attacks happened when the woman was by herself?

Dr. Prewitt.—They always happened at night.

Dr. Boisliniere.—Was anybody in the room with her?

Dr. Prewitt.—Not that I know of.

Dr. Boisliniere.—That is the distinction between true and false hysteria; the woman never has false hysteria when she is alone. Are you sure that the usual remedies were pushed to the extent that they ought to be used?

Dr. Prewitt.—In the first case I tried the effect of the bromides very freely and very ineffectually; I gave thirty or forty grains every three or four hours, but it seemed to have no effect, but she had very violent attacks one after another and lasting sometimes twenty-four hours.

Dr. Papin.—I have prescribed the nitrate of amyl in a great many instances, but I never had occasion to test it thoroughly until my last case, which gave me the data to go by. A lady 40 years of age came to me with these epileptic attacks, true epilepsy. She had from four to six attacks during the month, principally at the time of her menstruation. I found nothing the matter with the ovaries. She had decided premonitory symptoms and would often seek some position so as not to hurt herself. I gave her the solution of nitrate of amyl one drachm to the ounce with directions how to use it and in the course of a few months she came to me again and stated that she had had at first three or four attacks as usual but she noticed they came less frequently than before. The last time I saw her she was laboring under a great deal of excitement, having had some domestic troubles, and whilst she was speaking to me I noticed a change in her contenance and she calmly took out the bottle of nitrate of amyl and poured a few drops on a handkerchief and just as I was placing it to her nose she went into a violent attack. I allowed the thing to to go on for a moment or two until she became purple, with frothing at the mouth, etc., then I applied the nitrate of amyl, and in a few minutes the red appearance of the face showed its influence and it soon passed off, and her husband said it was the shortest attack he had known her to have. This was about four or five months ago; she has been at my office twice since that but she reported that she had had no attack for nearly five months. This is only one clinical case, not enough to establish a rule, but I was in hopes Dr. Prewitt could shed some light on the influence of the drug in these cases.

Dr. Lemoine.—How do you use the nitrate of amyl.

Dr. Papin.—I put a few drops on a handkerchief and let the patient inhale it; it has a very disagreeable odor.

Dr. Gregory.—I rise to say that I believe we only hear the successful cases reported. I have met with two cases that were unsuccessful and neither of them has been reported.

Dr. Lemoine.—Were these your cases?

Dr. Gregory.—They are my cases and I would ask Dr. Scott to report the case he called me to see two or three years ago.

Dr. Scott.—I reported that to the Society immediately after it happened.

Dr. Gregory.—The doctor knows that in that case these nervous symptoms which have been so graphically described were present and had lasted for several years and it was supposed that this was a proper case for the removal of the ovaries as the last and only hope. The operation was performed and I believe it was well done, and the woman survived several months, and so far as the operative procedure was concerned it was a success, but the woman was not benefited and she died after some time suffering all the time.

Dr. Scott.—For three weeks after the operation she was comparatively comfortable

Dr. Gregory.—Another case, to which I was called in consultation, was that of a young woman who had all these nervous symptoms that we see and read about in the medical journals, coming on in paroxysms; she was bedridden with a variety of nervous troubles and was perfectly helpless and a charge upon her mother and it was thought as she had undergone a long course of treatment without result, that this was a proper case for this operation, and the woman was sent to the sisters' hospital, and was operated upon and we found that the ovaries were not enlarged at all, they were scarcely perceptible. We did find a condition that looked like the condition of the tonsil which we sometimes find; those who have examined the fauces in the dissecting room know how the tonsils look when they are enlarged and there are ridges and little follicles in the side of the tonsil. We found these follicles; and the broad ligaments on both sides were tied down. However, we removed the ovaries, but the woman did not recover her mind and she finally died in a maniacal condition a number of weeks after the operation. I mention this case because it has never been reported at all. I have read of a great many cases and heard of them in the medical societies, where the operation has been successful, but we do not hear of the unsuccessful cases.

Dr. Boisliniere.—Do you recollect the case that we saw together, and that you operated on? That case was full of interest to me from the fact that it had been under my care several months and the patient suffered so intensely that several physiicans were called in to relieve her. Her sufferings were so intense that we had to give her hypodermic injections to relieve them. Many other prominent gentlemen saw the case, and one of these advised her husband to have the ovaries removed, giving his opinion that if she did she would get well. The husband spoke to me about it and I said there was no disease of the ovaries which would justify us in removing them, none at all. However his wife was pursuaded that the ovaries should be removed, and the husband wanted to do everything possible to relieve her, so after a consultation in which Dr. Gregory, Dr. Tupper and Dr. Gregory, Jr., took part, the operation was done, but I said the operation is done against my better judgment, because I felt there was no disease to warrant the removal of the ovaries. The ovaries were removed but they were not diseased. The operation was well done, and I have the ovaries yet, I know I kept them for months. For probably two weeks the patient got along very well and we began to hope that the operation would be a success so far as her troubles were concerned, then the old trouble came back with renewed force and it absolutely wore her out.

Dr. Gregory.—When I was called in to make an examination in the case the operation was a foregone conclusion; they had already concluded to do the operation,

Dr. Boisliniere.—The ovaries were perfectly healthy.

Dr. Papin.—I think we should not perform these operations unless there are indications pointing clearly to it; we should not do the operation simply because the patient or her friends insist upon it; I would rather give up a patient than operate unless it is advisable in the judgment of the majority of those present.

Dr. Lemoine.—Of course there are cases where no operation should be performed; but in Dr. Prewitt's case the ovaries were diseased and this disease justified the operation. I know of a case where both ovaries were removed and the woman was not benefited, she suffers as much to-day as she did before the operation.

Dr. Boisliniere.—In the case I refer to the patient was not benefited.

Dr Lemoine.—It was not due to ovarian disease.

Dr Gregory—In Dr. Prewitt's case it was not true ovarian disease so far as he could determine before the operation. He could not find the ovaries at all; as it turned out the ovaries were diseased, but he could not tell that from the examination before the operation; he could not tell positively that they were diseased.

Dr. Gehrung.—There is no doubt in my mind but what surgery may cure a number of cases of hystero-epilepsy; so also it may be cured by the ordinary gynecological means; but there are a great many cases that persist in spite of any treatment and under all circumstances. Then in those cases that are relieved by surgical means, the question remains whether they could not have been relieved by other means. There are certainly cases of diseased ovaries reported, and we know that we frequently find diseased ovaries from displacement, from constriction of some kind, which, if replaced, supported, will become entirely healthy ovaries after a time. So the finding of a diseased ovary is not proof that the ovaries are the cause of the trouble with which

the patient suffers nor, secondly, that their removal is necessary or that the disease will be cured by the removal of the ovaries. Sometimes the performance of a surgical operation will so shock the system as to produce an amelioration of the symptoms. By mechanical means I have succeeded in curing quite a number of cases of hystero-epilepsy. In some of these cases the broad ligaments are stretched out like two wings by being pulled over on the pelvic surfaces; I found this stretching out of the ligaments putting the different tissues on a tension and it frequently causes a reaction of the nervous system, and this is the case often in cases of hysterics and hystero-epilepsy. The question then is are those distended ligaments really stretched out or is it merely a displacement of the generative organs of the woman, perhaps by falling out of position that the ligaments are put on the stretch. If such is the case, then certainly the mechanical means ought to be sufficient, by liberating possible adhesions or by supporting the organs in a right position by relieving the stretching of those ligaments—by mechanical means, ought to be sufficient to correct the case. I have seen quite a number of cases so corrected. This with the combination of very badly diseased ovaries is often the cause of these troubles. If the stretching of the ligaments can be relieved by mechanical means the cases may get well. I can not say that all get well under the use of mechanical means. I have frequently found that hystero epilepsy is based to a great extent in combination with troubles which have caused losses of blood, where the patient has been reduced by suppuration or by excessive menstruation or by hemorrhage; these cases of hystero-epilepsy can frequently be observed in these cases. In such cases I have often found it of advanatge to resort to reppession of menstruation, so cases may be cured by that means in addition to the ordinary measures supporting the overies in place, by giving the pa tient blood enough to live again. Now it has sometimes been said that this condition of hystero-epilepsy is a condition apart from disease of these organs and it is looked upon as something which cannot be ameliorated or at least cured. In my experience the disease exists and depends to a great extent, according to my observation, on some disease of the genito-urinasy organs; there is some disturbance there, it is not a purely nervous phenomenon I feel perfectly sure; and these attacks will come on whether the patient is alone or in company, but the patient can frequently control the attacks. The patient can often postpone the attack, but it will come on finally and perhaps be more violent than usual. I have noticed for instance in a certain clinic in Paris, that frequently a patient was simply referred to with: Oh, she is an hysteric! and has such and such phenomena! and this is taken to account for the whole trouble. I wonder really that the medical profession can come to a standpoint such as that, and say she is simply hysterical as if could not be treated and interfered with—just let the patient go on in her misery, as if it was merely a congenital or constitutional defect or brain disease. It is not so, such hysterical cases can frequently be improved or cured by timely and sensible interference. I believe I have stated that I acknowledge that there are cases which surgery can really cure and where a resort to surgical means would be a necessary practice; but it is almost impossible to say which are those cases.

Dr. Papin.—From reports made to-night and your own observation, don't you think surgery has a good deal of guess work in many of these cases? I think Dr. Gehrung is right in regard to the beneficial results in many cases of mechanical support. I use pessaries and I occasionally find the Gehrun pessary very excellent.

Dr Boisliniere.—I think surgery is perfectly justifiable when we have good grounds to suspect a diseased ovary or tube. Where a case resists all therapeutic measures and is hopeless we are justified in resorting to surgical methods. I think in these desperate cases the surgeon is justifitable in operating.

Dr. Papin.—If he knows what he is about. If a surgeon is justified in removing the ovaries in a woman in this trouble because everything else has failed, why is he not justified in removing the testicles in a male under like circumstances.

Dr. Prewitt.—I think, Mr. President, that after all the known means of treatment have failed, and the patient is in a hopeless condition, the surgeon is justified in operating and removing the ovaries; the cases that I operate upon I look upon as extreme cases, those in which everything else has already been tried. The case that I operated on a few days ago has been under treatment for ten to fifteen years.

Dr Gregory.—Here then is a case which for ten or fifteen years has been subject to nervous irritation, and the doctor reports this case and says the woman has been under treatment all this time, and in all probability the woman now has central nervous trouble, that is not absolutely certain, but it is probable; this center has been assaulted during all these years and the ovaries are removed, and I say that if there is any relief in such a case it will probably only be a temporary one. It is but reasonable to suppose that during all these months and years of nervous suffering the central nervous system has become affected;the trouble has become as it were central, there have been changes in the central nervous system corresponding to the peripheral condition and if you remove the source of peripheral irritation you can not deliver your patient from the centric trouble. There is such a thing as an epileptic brain established, and when once the neurosis is established it becomes a function of the center—a disease of the central system. I agree with the speakers that if it can be shown that there is a morbid condition of the ovaries, we are justified in operating unless there is something which contraindicates the operation, but I am opposed to an operation for the removal of the ovaries unless it is manifest before hand that the ovaries are in a morbid condition. In a large proportion of these cases even where an operation is

performed such a condition of the ovaries is not proved before hand; it may be suspected but it is not absolutely known. In Dr. Prewitt's case it seems that he found nothing, he could find no ovary at all; after he opened the abdomen he did find the ovary and he found adhesions and unquestionably the ovary was not in a perfectly healthy condition, but this was only discovered after the operation.

DR. PREWITT.—There was extreme sensitiveness, however.

NOTES AND ITEMS

Rutherford College of North Carolina has conferred the honorary degree of LL.D. upon Dr. Wm. C. Wile.

Dangerous "Diabetic Flours" containing as high as sixty-six per cent of starch, and yielding the same amount of glucose as wheaten flours, are to be found in the market.—*Medical Record.*

Test of Flour for Diabetics.—A weighed quantity of the flour is taken and the carbo-hydrates converted into glucose by treating it with sulphuric acid in an inverted condenser for a few hours, and then estimating the amount of glucose by the alkaline copper test. This process with care gives absolutely reliable evidence.—*Lancet.*

The Pathogenesis of Death from Burns.—Koch (*Wiener med. Wochenschr.*) in a series of researches on 32 cases of severe burns, of which 16 patients died, confirms the already reported observation of Tappeiner, that there is a loss of blood plasma. This author found in the cases of death that the specific gravity was between 1065 and 1076, and he concludes from this that in contradistinction to the normal, the blood in cases of severe burns easily loses its plasma. This loss is not a true decrease of plasma, but is caused by the change in the red blood corpuscles and the toxic substances arising therefrom. This change is not seen or does not arise in the neighborhood of the scab, but at the point where the blood, warmed to form 40°–60° C., becomes functionless. He believes it is worth while to use intravenous injections of normal salt solution in these cases.—*Am. Jour. of the Med. Sci.*

℞ Atonic Amenorrhœa.
Ext-Sabina Fluid ʒi.
Elix Bubrans ʒiv
Sig- Dessertspoonful
four times a day.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Record of a Few Cases Treated with a New Antiseptic Compound.

BY T. E. WHITE, D.V.S.

1. A case of "sitfast" caused by a bruise from the saddle. These wounds are stubborn and slow to heal. Being hard and leathery and firmly attached to the surrounding tissue, the only recourse is, to dissect them out carefully with a knife and then dress antiseptically. Heretofore I have used either carbolized vaseline or iodoform ung. My attention having been directed, by my old professor, Dr. Liataud, Dean of American Veterinary College, New York, to Sennine, by seeing this product so highly commended, as possessing remarkable antiseptic powers, I concluded to give it a trial. Combining the Sennine—which is a very fine white powder of a sweetish taste, and slightly astringent—with vaseline, I applied it to the sore; being of a delicate pleasant odor I found it much more preferable to use than iodoform with its persistent disagreeable smell. Its action was most satisfactory, the wound healing promptly with little or no attending pus and in a much less time than where other preparations were used.

2. A case of speedy crack. These breaks are the bane of all horsemen; they are not only difficult to heal, but they are constantly recurring. In the case under treatment I gave the fissure a thorough dusting with the Sennine, and the crack healed in a little while. The form in which this medicine is furnished renders it especially attractive to handle; being put up in small tin boxes with perforated lid, a dry application is only the work of an instant.

3. Case of retention of placenta in cow. In ruminants the placenta is localized; in the mare it is diffused. Shreds of the placenta in cows are often tenaciously retained by their colytedon attachments even in a normal parturition and if not antiseptically treated, the case tends to one of septic metritis. I treated such a case the latter part of last month. After removing as much as possible all decomposing membranes I used the Sennine in water as per formula, injecting vagina and uterus by means of a gravitating syringe. That the medicine possesses powerful germicidal properties was soon demonstrated by the almost immediate change in the character of the tissues; the parts, freed, by the action

of the medicine, from any further developments of the poisonous micro-organisms and their products, began quickly to assert their reparative powers and a rapid recovery soon followed.

4. Five cases of barb wire cuts. Stock belonging to Mr. M. broke out of the pasture on the right of way of the M. O. P. R. R. The train coming along at that time the stock (six horses and a mule) became scared and ran full speed down the track. Five of the animals struck the wire of the fence so forcibly that the necks and shoulders of each were cut in numerous places, some of the cuts being very deep; one mule was so terribly lacerated that it was thought advisable, by those who saw the animal, to destroy it, but the owner having the other four to be cared for concluded to wait and see what could be done. I was sent for and when shown the mule, I greatly surprised the owner when I mentioned that it could be cured. After trimming off all ragged and detached edges with the scissors the wounds were carefully washed with warm water to which a little salt was added. Sennine in its powdered form was then well dusted into and over the wounds. This treatment has been kept up for three weeks, the wounds are healing smoothly, the animal is steadily improving, and to all appearances is as comfortable as if the sores were fully healed. The cuts in the other four were subjected to the same treatment, but being much less severe are now almost entirely healed and all with *less marking* than I have ever had with similar cases.

So far as my experience with Sennine goes, this antiseptic surpasses all others in the quick and excellent results given.

Being entirely free from any poisonous properties, it must have a distinct value in all such cases where the animal would have an opportunity to gnaw or bite the wound, thus giving it an unmistakable advantage in this respect over iodoform, carbolic acid and corrosive sublimate.

Under its spray abscesses and bursæ should certainly be opened with greatly reduced risks of destructive inflammation and suppuration. Its freedom from smell, taste or irritant effects make it a most agreeable substitute for some of the nauseating drugs indicated in like uses and from the results obtained I am led to believe that Sennine must rapidly commend itself to every practitioner who has occasion to employ it.

Stenosis of the Ileum and Rupture of the Stomach in a Horse.

BY G. C. LOWE, M R C.V.S., LONDON.

In the forenoon of February 21 we were called to visit an aged brown nag gelding in fair condition. He had been off his feed for about twenty four hours, but had performed his work—trotting with a light van—throughout the previous day, and was reported to have appeared merely dull and uneasy. After his return to the stable in the evening, however, the horse evinced signs of increased uneasiness and pain, and was inclined to be violent. Two or three ready-made colic mixtures of an oleaginous nature were administered by the stableman during the night, but they did not appear to influence the animal. No dung passed from him. Upon examining the horse about 12 o'clock the following morning we found him dull and uneasy—not inclined to be violent; his extremities and ears were cold, mouth and tongue dry, temperature 102⅘°, pulse hard, small and slightly accelerated. More clothing and bandages were applied, and two or three hours later the horse was walked to a more convenient stable about a miie distant, but on the journey showed a great disinclination to move. Upon arriving at this destination his condition appeared to be much the same as at noon. Enemas of warm water were administered, and a few hard feces, light in color, were evacuated. Four drachms of chloral hydrate cryst. were given in a draught, and the animal allowed to act as he pleased in a loose box supplied with plenty of straw. Throughout the following day the horse gradually became more uneasy, frequently lying down and getting up, not, however, rolling or giving indications of spasmodic pain. He began to sweat, and continued to do so. His mouth became exceedingly dry and foul-smelling; conjunctival and buccal membranes injected, and of a dirty yellow color; expression of eyes and face anxious and pinched; and respiration quickened. The temperature rose to 104°, and the pulse became much more accelerated, still remaining hard and small. No tympany was noticeable. During the day enemas were given, but failed to extract more feces; two doses of chloral hydrate (ʒiv in each dose) were also administered. The horse, however, rapidly became worse, sweating profusely, and showing great anxiety, but by no means violent. Water was offered to him, and a pailful kept in the box, yet he persistently refused to drink any. During the night of the 22d he died. As regards the horse's previous history, it was stated by the stableman that he had never shown signs of colic or any other indisposition, with the exception of an attack of inflammation of the lungs about two years ago.

At the post-mortem examination the abdomen was found flooded with a dirty-colored watery fluid in which were scattered small pieces of ingesta. The double colon upon being hauled out struck one by its apparently dwarfed nature; its contents were scarce in quantity and very dry, and distributed irregularly along its course. The floating colon and rectum appeared normal. The small intestine presented the following appearances: At the ileo-cecal valve and for about two feet immediately anterior to that the intestine was constricted, and its wall, owing to hypertrophy of its muscular coats, had a thickness of two inches, causing stenosis; the wall then became gradually attenuated and the caliber of the intestine increased, and this dilation of the intestine extended uniformly throughout the whole remaining portion of its length, the interior being filled with the same kind of watery fluid and ingesta as

that which flooded the abdomen. The intestine was dilated almost to bursting, but no rupture of its walls had taken place. The stomach was found to be ruptured on the posterior face of the right sac, a little above the great curvature. It presented a very unusual appearance. The peritoneal and muscular coats had given way along a nearly straight line about seven or eight inches in length, and the edges had separated for about a finger-length, but, save for a circular hole about three inches in diameter at one end of the rupture, the space between the separated edges of the peritoneal and muscular coats was completely bridged over by the intact, but stretched, submucous coat. Strange to say, the mucous membrane was ruptured along two lines nearly corresponding with the separated edges of the ruptured outer coats, and the piece thus isolated remained adherent to the portion of the submucous coat which filled up the gap in the muscular and serous coats.—*Journal of Comparative Pathology and Therapeutics.*

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C.P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

Observation shows generally the discharge becomes less and less sanguineous as we go lower in the scale of organization, so that in the lowest creatures we see only a mucus exudation, perhaps but slightly, if at all, tinged with blood. In all presenting a vulvar aperture, there is swelling with turgescene of the genital orifice; but the exhalation of blood appears to be mostly, if not entirely in relation with, and subordination to the evolution of the sexual organs, so that, in the lowest forms it may be represented merely by an oderous flux. Probably undiscovered exceptions to this law exist. It is believed that their discovery would not invalidate the general truth of the law propounded; they would merely illustrate what is well known in biological inquiries, that variations and divergences for adaptive purposes are not uncommon in correlation with certain conditions of environment, nutritional, climatic, or other. Pouchet recognized some such relation as is indicated above, but he seems to have thought that it also bore relation to the size of mammals; and he regarded a copious intestino-form uterus with its extensive mucus membrane, as accommodating a larger volume of blood than the thicker small uterus of woman and the simiæ was capable of doing. He says, the quantity of blood emitted by the animal, is absolutely related to the structure of its uterus but the afflux of the fluid towards the genital organ is always proportionate to the size of mammals. The species in which the genital apparatus approaches more that of woman, and which as in monkeys have a small and coriaceous uterus, are manifestly regular, and show an abundant external flow of blood. We have seen that the assertions of Buffon, Curier, Burdach, G. Sainte Hillaire, Rengger, Ehrenberg, Raciborski and Isidore Sainte Hillaire have no doubt in this respect." And again: "Thus, then menstruation in the sow is a demonstrated fact. As in human species, there is an emission of blood; but if this is not abundant it is because this fluid is found in great part poured in the immense extent of the internal generative apparatus."

The generalization I have independently worked out and now venture to propound differs from Pouchet's, in that I regard the relation of the catamenial function, in respect to its sanguineousness to the generative organs, as being, in the main, one of subordination to the extent of their evolution, not merely to the accidents of shape of the uterus or size of the creature. Aberrations in, exceptions to, or divergencies from the law, may in time be discovered, or may declare themselves in the course of inquiry; and the explanations of exceptions, real or apparent, may be found in, or be accessible to, such causes as difference in the plasticity or adaptability of animals to their environment; in the tendencies of some species to organic degradation, or to some other factors as yet unknown; but with the allowances scientific caution would prescribe, it is believed that the general accuracy of the evolutionary law, now provisionally advanced, will become established as observations are extended. Seeing the extreme difficulty of instituting adequate personal inquiry into the phenomena as they are presented in all animals by one individual it is to be hoped that all who enjoy exceptional opportunities for observation will be so good as to make and record them, so that, in process of time, an accurate record of facts may be garnered.

With ample material furnishing reliable data, further conclusions may become warrantable, and correlations be discovered that are now unsuspected. For example, the flux may be found to bear some relation to the evolutionary or hemoglobin value of the red cells. Probably diet influences it also; and possibly, it may bear some relation to the number of ova, for in the multiparous carnivora the manifestations of heat, including the flux, are more sustained than in the uniparous ruminant.

In illustration of my position the following passages, borrowed from Gegenbaur, may be usefully quoted:

"Two completely separated uteri open into a vagina in many rodentia (lepus, sciurus, hydrochoerus, etc.), and in orycteropus. In other rodentia the two uteri are only united for a short distance into a common opening into the vagina (*e. g.*, cavia, coelogenys, mus.). This leads to the arrangements seen in the uterus of insectivora, carnivora, cetacea and ungulata, where a single uterus is continued into two separate cornea which are continued in the oviducts. When the common portion of the uterus is elongated the cornua are shortened; this is the case in the chiroptera and prosimiæ; in the simiæ as in man, there is a single uterus (C), which receives an oviduct on either side. The cornua of the uterus, and the common uterus itself, vary very greatly in length; so too does the vagina, the mucous membrane of

which may be variously modified. In many rodents (Logotomus) a certain portion retains its original double nature. Its opening into the urogenital sinus is sometimes distinguished by a temporary fold of mucus membrane, which is known as the hymen. This has been observed in the ruminantia, carnivora, etc., but it is in the simiæ only that it has the same relations as in man. The primitive Muellerian duct, which only served for the passage of the generative products, is, therefore, differentiated into three parts, owing to the great physiological changes that happen to it; and of these parts, the first, or Fallopian tube, alone retains its primitive relations.

"The ovaries, which are generally small, vary greatly according to the relation that obtains between the follicles and the stroma of the ovary. In a large number of mammals they are racemose in form. They seldom retain their primitive position, and generally travel towards the pelvic basin, or with their oviducts are completely enclosed in it. They are always in close relation to the oviduct, or rather to its infundibular coelomic mouth, for a process of the margin of the ostium extends to the ovary. The mesenteric folds (ligamenta uteri lata) support the ovaries and oviducts and unfrequently unite with the pouch that encloses the ovary to form the mouth of the oviduct (as in the carnivora)."

We may now examine the evidence furnished by observation upon the females of the lower animals at their periods of heat. It will be apparent that there is singular accord in the statements of competent observers upon the phenomena as they present themselves in the various animals; and that, in all the creatures subjected to inquiry, some more or less conspicuous flux or exudation occurs, the majority exhibiting manifestations partaking in varying degrees of a sanguineous character.

In observing domesticated animals, and still more those in a state of captivity, the same allowances for individual variations should be made as could be made in regard to women; in whom we find laborious life and hard fare to some extent diminish the flow; while ease, luxury and plenty (not excess) promote it. Again, racial peculiarities, with the lower animals as with the human species, may unquestionably affect the character of the flow.

Very slight changes in normal conditions affect the capacity for reproduction in all animals; hence, many creatures fail to breed in captivity, while on the other hand domesticable creatures have augmented powers. Mr. Darwin's statements to this effect are numerous and weighty. In "Animals and Plants under Domestication," vol. 2, pp. 143 4, he says: "It would appear that any change in the habits of life, whatever their habits may be, if great enough, tends to affect in an explicable manner the powers of reproduction. The result depends more on the constitution of the species than on the nature of the change; for certain whole groups are affected more than others; but exceptions always occur, for some species in the most fertile of groups refuse to breed, and some in the most sterile groups breed freely. * * * Changed conditions of life have an especial power of acting injuriously on the reproductive system. The whole case is quite peculiar, for these organs, though not diseased, are thus rendered incapable of performing their proper functions or perform them imperfectly." Ibid., p. 256. We know that certain groups of organic beings, but with exceptions in each group, have their reproductive systems much more easily affected by changed conditions than other groups—for instance, carnivorous birds more readily than carnivorous mammals, and parrots more readily than pigeons; and this fact harmonizes with the apparently capricious manner and degree in which various groups of animals and plants vary under domestication."

[TO BE CONTINUED.]

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NON NOBIS SOLUM. May 23. 94

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ORIGINAL ARTICLES

Paralysis.—Its Differential Diagnosis.

BY JOHN PUNTON, M.D, KANSAS CITY, MO.

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The various complete movements of the human body are produced by organs termed muscles which are excited to action through the medium of the nervous system. The marvelous mechanism by which muscles act singly and together, as well as modify each other's effect, is full of interest and importance, although its bearings are so extensive that were I to go into detail, it would carry me beyond the range of what might be inferred from the subject of my paper. Time will only permit me to remind you of a few of the more salient facts of their physiological correllation in order that we may better understand their pathological defects. That the nutrition of muscles is largely under control of the anterior gray substance of the spinal cord, there can be no doubt, and that its influence is exerted chiefly by means of the motor nerves which emanate from the cells of this region, all authorities agree.

The nutrition of muscles, therefore, largely depends on the integrity of their motor nerves, and as the bulk of a limb is composed chiefly of muscular tissue any interference with its nutrition is quickly shown by alterations in size as well as its normal movements. Observation and experience teaches us that the conditions are very few indeed in which motor changes originate in the muscles themselves, although they are to be found in cases where there is a general impairment of nutrition such as chronic wasting diseases, anemia, and in some acute diseases. It appears to be the chief cause also of muscular weakness that so often succeeds all forms of fevers as their sequellæ. Conditions of ossification of muscles and the disease known as pseudo-hypertrophic paralysis are also conspicuous examples, but in almost all other conditions loss of power of muscular movements is dependent upon the state of the nervous system either directly or through defective nutrition of the muscles or both. Now this defect of muscular movement may present every degree from slight weakness to absolute loss and the term paralysis has long been applied to express the condition although different terms are used to express its true nature and character. Hence we have a complete, incomplete, general, local or partial paralysis. The latter condition is also expressed by the term paresis. Technical terms are also used to explain its general characteristics, hence a physician may be called upon to recognize at least five different varieties of paralysis, viz., Monoplegia, Hemiplegia, Paraplegia, Hemipareplegia and General. Then again pathologically speaking we may classify all the varieties of paralysis into two groups, viz., Myopathic and Neuropathic. I have already stated that the conditions are few in which morbid changes occur in the muscles themselves, hence a myopathic paralysis is comparatively speaking rare. On the other hand, a neuropathic paralysis is very common and depends upon some cause which either prevents the action or volition upon the central fibers which ultimately supply the voluntary muscles or else the cause obstructs the transmission of this action at some point in its course from the brain to the muscle. Loss of motor power or paralysis, therefore, may result from anything which tends to impair the generating power of the nerve cell or the conducting power of the nerve fibers which spring from the cortical centers and continue on through the interior parts of the brain via. the internal capsule, crura cerebri, pons and medulla, thence to the anterior and lateral colums of the spinal cord under the name of the direct and indirect motor tract terminating in the gray substance of the anterior cornua of the spinal cord and again continued in the form of nerve trunks and branches to the voluntary muscles. It is possible, therefore, to classify the disturbing elements or lesions causing all varieties of paralysis into three groups, viz.:

1. Those situated in the brain.
2. Those of the spinal cord.
3. Those of peripheral nerves.

A thorough knowledge of the functions of each of these organs is absolutely indispensible for all true succes, in accurate scientific diagnosis, for it can truly be said that the highest attainment in the medical art is the ability to associate symptoms with lesions and this

can only be done along the lines of anatomy and physiology. A physician, for instance, who has simply acquired a smattering of cerebro-spinal architecture may be called upon to examine a patient who gives evidence of impaired motility in some part of the body. This paralysis as I have already indicated may be due to some disturbing lesion located either in the brain, spinal cord, or peripheral nerve. If it be in the brain, then he is called upon to determine whether it be confined to the meninges, the cortex, the internal capsule, the basal ganglia, the crura, the pons or the medulla; it is also important that he come to some definite conclusion regarding its nature and character. Then again if there are reasons to believe it to be confined to the spinal cord, then he must differentiate between affections that follow separate distinct tracks of fibers technically termed systemic lesions and those that spread diffusely from column to column invading any and all parts, and known technically as non systemic lesions. He must also determine the height of the lesion in the cord, as each pair of spinal nerves together with its corresponding amount of cord substance constitutes a spinal segment, and as there are thirty-one pairs of these so there are thirty one spinal segments each of which are endowed with special functions of their own.

Beside this the pathological character of the lesion must be clearly defined. It is possible that the symptoms may favor a peripheral lesion; if so then the physician must determine which particular nerve or plexus is involved and the muscles supplied by it as well as their functions. Now I hold that these principles can not be applied scientifically without a thorough knowledge of cerebro spinal architecture, and yet we all know that the nervous system together with its diseases receives less attention and consequently is more imperfectly understood by the general practitioner of medicine than any other department of medical science.

With a desire to make my remarks as practical as possible, I have deemed it best to select familiar forms of paralysis in order to demonstrate the more clearly the leading principles of differential diagnosis due to lesions of the brain, spinal cord and peripheral nerves. I will therefore direct your attention first of all to perhaps the commonest form of paralysis and one which you are brought more or less in contact with, viz, hemi plegia. This term expresses a condition in which there is a partial or total loss of voluntary motion in one lateral half of the body. In other words it is a unilateral paralysis. It is often associated with more or less anesthesia but may exist independently of this: Hemi plegia is one of the most frequent and important effects of brain disease, and may be produced by any lesion affecting the motor area or tracts of motor fibers arising from it and which are ultimately distributed to the voluntary muscles. In the vast majority of cases hemi plegia is symptomatic of rupture of some intra-cranial blood vessel. This condition which occurs suddenly is essentially due to disease of the arterial system. It is true it may occur from other causes, but this is the most frequent one. The hemorrhage that results is far more apt to occur in or near one of the corpora striata than in any other part of the brain, the point of selection most frequent being one of the lenticulo-striate arteries, which has developed miliary aneurisms. All observers agree that morbid changes in the arterial walls precede their rupture though there are differences of opinion as to the character of such changes. When hemiplegia results from such a cause one of the more common symptoms accompanying it is loss of consciousness although it may occur without this. Among the exciting causes of such an attack may be mentioned excessive emotions, over indulgence in stimulants, sexual excesses, physical and mental strains, temporary obstructions to the return of the venous blood from the brain in such actions as coughing, sneezing, straining at stool, laughing, etc. Beside the loss of consciousness which occurs suddenly the common symptoms accompanying hemiplegia when due to a brain lesion are exaggerated reflexes, spastic rigidity of the muscles, which in itself whenever found is strong evidence of brain disease, a sickle like gait and more or less involvement of the special sense centers but which depend entirely on the seat of the lesion and parts involved. As the two most important elements of diagnosis are (1) the seat of the disease, and (2) its nature and character, we must remember that the former is indicated by the symptom present, while the latter by their mode of onset as well as the cause and other points connected with the history of the case. As an aid therefore to a solution of these we must call to mind the fact that the motor tracts from the two sides are near together in the pons, and still nearer in the medulla, hence a lesion in either of these situations may paralyze both sides of the body.

In the cerebral hemisphere, however, a single lesion only affects one motor path, and the unilateral paralysis that results in hemiplegia. As the motor tracts also decussate in the medulla, the limbs are paralyzed on the side opposite the lesion in the brain. In the pons the motor fibres which go to the hypoglossal and facial muscles also decussate; this occurs about its middle. Above this point and before they decussate they are intimately associated with the fibres of the motor tract which goes to the limbs. Hence a lesion above the middle of the pons usually causes paralysis of the tongue and face, which is on the same side as the lesion. In the internal capsule, the motor fibers diverge and still more do as, they pass through the centrum ovale to the cortex where the centers for the leg, arm, face and tongue are to some extent separated from each other. Hence lesions of the cortex may paralyze one of these only and therefore monoplegia is the characteristic form of paralysis which results from lesions of this territory. To the rule that paralysis is on the opposite side of the lesion in hemiplegia exceptions have been met with, and these can only be accounted for by believing that in these cases the ordinary decussation of the pyramids in the medulla did not occur. But others believe that if

they fail to cross in the medulla they do so lower down in the cord, hence the ordinary theory fails. When hemiplegia therefore does occur on the same side as the lesion it is at present difficult to account for it in any other way.

A brief resume of symptoms accompanying an ordinary attack of hemiplegia due to a brain lesion would be:

1. Sudden onset of attack usually.
2. Loss of consciousness which may or may not be present.
3. Paralysis of one lateral half of body.
4. Anesthesia may or may not be present.
5. Exaggerated knee reflexes.
6. Spastic rigidity of muscles which appear soon after attack, remaining permanent.
7. Ankle clonus usually present.
8. Face may or may not be involved.
9. Tongue may or may not be involved.
10. Special senses may or may not be involved.
11. Peculiar sickle-like gait.
12. More or less difficulty of speech and often true motor aphasia.

Besides these are many other symptoms of a general character which may or may not present themselves during the course of the attack but the above enables one to definitely decide the two most important points in diagnosis of brain lesions.

Spinal Disease.

The next form of paralysis to which I desire to call attention is, paraplegia, or that from of paralysis which usually results from some lesion of the spinal cord. In order that we may better understand the principles of differential diagnosis between paralysis due to brain lesions and those of the spinal cord, it is well to recognize the fact that the motor tract may be divided into two segments, an upper or cerebral-spinal and a lower or spino-muscular. Each consists of a ganglion cell above a nerve fiber and the terminal ramification or end organ of the latter. The upper is composed of a cortical ganglion cell and a pyramid fibre which proceeds from the cell and passes through the various parts of the brain already referred to and ends in the grey substance of the anterior cornua of spinal cord by the division with several nerve cells. The lower consists of a motor cell which are found in great abundance in the anterior cornua of the spinal cord and the fiber which proceeds from it which passes through the ant-root and nerve trunk to the muscle which it divides and ramifies on the muscular fiber. Histologically the external sheath of the medullated nerve fiber terminates by its blending with the sarcolemma while the white substance of Schwann terminates abrubtly at the same point, while the axiscy linder unites with the primitive fibrilla or motorial end plates of a muscle. Each segment has a similar constitution but the elements of the two do not correspond in number as each cerebro spinal element is connected with many spino-muscular elements. So too each motor fiber is connected with a considerable area of excitable muscle tissue. This conception of the motor path conduces to clearer ideas of many pathological facts. We are now prepared to consider the general functions of the spinal cord for we interpret disease by means of symptoms which are nothing more or less than an expression of some derangement of function, viz., the loss of some, the peversion and exaltation of others.

Functions of Cord.

1. The spinal cord conducts motor impulses from the brain and sensory impulses to it.
2. It constitutes a series of centers for reflex action.
3. Center of automatic acts.
4 Source of inervation of the sympathetic system of nerves which control the bladder, rectum, blood vessels, and the genito-urinary mechanisms.
5 It presides over the nutrition of all parts to which its nerve supply extends.

The symptoms of disease of the spinal cord therefore consist in the derangement of its various functions. Now a common feature of the symptoms of disease of the cord is their bilateral character. This depends largely on the fact that each half of the spinal cord together with their special tracts of fibers are in close proximity, and any disease of the one may readily affect the other; therefore, the characteristic type of palsy is paraplegia.

I have already called your attention to the fact that the motor tract is composed of two segments, and that the spinal cord contains a considerable portion of the nerve fibers of the upper portion, but only the commencement of the lower one. The chief part, therefore, of the lower segment is outside the spine in the form of nerve trunks. So far as loss of motor power is concerned, the effect is the same in whatever part of the motor path the interruption is situated, but the other symptoms that accompany the paralysis differ very much according to its seat in the upper or lower segment. We have already learned that the lower governs or at least influences muscular nutrition and also forms part of the path or reflex action. Hence when this segment is diseased the muscles waste or atrophy, and the reflexes are usually abolished, but when the upper segment is at fault, there is no muscular wasting, and reflex action instead of being lost is commonly increased. A lesion of the pryamidal fiber causes loss of power in all parts below the level of the disease. A lesion of the grey matter or of the anterior roots causes paralysis only of those parts which are functionally on the level of the lesion. The two mechanisms often coincide. A transverse lesion in the cervical region, for instance, may cause paralysis of the arms from damage to the grey matter and nerve roots, and paralysis of the legs from damage to the pyramidal fibers.

The disease involves primarily in the former case the commencement of the second segment of the motor path for the arms, in the latter the middle of the upper segment. The parts affected by any lesion at any level

involves a knowledge of their specific functions which would carry me far beyond the scope of this paper to detail. Suffice it to say, that the symptoms relate to disturbances of motion, sensation, reflex action, and trophic mechanisms, all of which are under the control of the nerve cells and fibers. Whenever, therefore, we are called upon to attend a patient suffering from paralysis the fact of its being paraplegic in character strongly suggests a spinal lesion, and more especially when this is associated with muscular wasting or atrophy with degenerative reaction demonstrated by the electric current, as well as marked muscular flaccidity with loss of the reflexes, as well as an anesthetic girdle band an early involvement of bladder and rectum or both, then our diagnosis is easy and certain, but many of these symptoms may be absent by reason of their centers in the cord remaining intact. A knowledge of them and their situations in the cord, however, enables us to differentiate the seat as well as the nature and character of the lesion.

Peripheral Paralysis.

Before closing I desire to call your attention to a few facts concerning the general characteristics belonging to impaired motion due to lesions of the peripheral nerves. By recalling your anatomy of the spinal nerves, you are aware that they are distributed to the muscles of the extremities, and that the two most im portant pleusus are the brachial and sacral, supplying the limbs. By virtue of their extreme complexity of function and structure, their clinical aspects are very varied; nevertheless, there is an underlying unity as regards their pathological condition as well as their cause and symptoms. The chief causes of the peripheral diseases include injuries, toxic influences, such as rheumatism, alcohol, syphilis, diabetes, etc., exposure to wet and cold, mental and physical excesses, anemia, and marasmatic conditions. The symptoms present a great variety, but when the nerves are injured or diseased we have as one of the commonest symptoms paralysis of the muscles, supplied by the affected nerve, hence a thorough knowledge of nerve distribution is very essential in differential diagnosis of lesions to the peripheral nerves. When confined to the upper extremity the paralysis may be classified into four types, viz.:

1. Combined arm palsies.
2. Upper arm type or Erb's palsy.
3. Lower arm type.
4. Paralysis of individual nerves.

In the first, the whole part of the plexus may be involved, together with its numerous ramifications, and these make up about 6% of all peripheral paralysis and are about one-fifth as frequent as single nerve palsies.

(Dana). "In Erb's palsy there is involvement of the deltoid biceps, brachialis anticus and supinator longus, and sometimes all of the muscles supplied by the median nerve." The lesion is either in the cord formed by the fifth, sixth, cervical or a little lower in the brachial plexus where the fibers supplying the musculo spiral-circumflex and musculo-cutaneous lie close together. At all events the lesion involves the central or upper parts of the cords of the plexus, and as a consequence, the arm hangs by the side and the forearm can not be flexed. In the lower arm type, the triceps, the flexors of the wrist, the pronators, the flexors and extensors of the fingers and the hand muscles are involved.

The arm can be raised and the forearm flexed and supinated, but the hand is useless and the extension of the forearm is impossible. The lesion here involves chiefly the nerves from the seventh and eighth cervical and first dorsal roots. Paralysis of individual nerves is easily diagnosticated by a thorough knowledge of their functions as well as their course and distribution, and the lesion may be situated anywhere along their course from their origin to the final distribution. Paralysis affecting the lower limbs when due to peripheral lesions can be classified in a similar manner to that of the upper and are either combined palsies or confined to a single nerve strand. Such palsies are due to much the same causes as those of the upper limbs and present many symptoms in common. The chief symptoms belonging to either vary with the severity and extent of the lesion and when paralysis occurs it may present itself in three degrees, viz.:

1. As transient palsy.
2. A palsy of much longer duration, and one which presents an inflammatory process.
3. A permanent palsy.

Beside paralysis we may have atrophy of the muscles, changes in their electrical reaction, pain, tenderness, anesthesia, trophic, secretory and vaso-motor disturbances. As a further aid in differential diagnosis I desire to recapitulate in the form of a table some of the facts referred to in my paper, which I trust may prove of value to any who may be in doubt as to whether a lesion causing paralysis is situated in the brain, spinal cord, or peripheral nerves.

DIFFERENTIAL DIAGNOSIS.

I. Spinal Cord.	II. Brain.
Gradual onset usually.	Sudden onset usually.
Loss of consciousness.	Loss of consciousness usually.
Convulsions not common.	Quite common.
Type of paralysis paraplegia usually.	Hemiplegia usually.
Marked atrophy of muscles common.	Not usual.
Marked flaccidity.	No flaccidity.
Spastic rigidity of muscles not common. If so can be overcome by manipulation.	The rule and usually permanent.
Reaction of degeneration the rule.	Not present usually.
Loss of reflex common.	Exaggerated usually.
Intellect unimpaired usually.	Usually impaired.
Bladder and rectal involvement common.	Rarely ever present.
No cranial nerve involvement usually.	Quite common.
Speech unimpaired.	Quite common.
Anesthesia sometimes.	Quite common.
Entire absence of sensory symptoms diagnostic.	Not usually present.
Flexors most involved usually.	Extensors usually.

I am aware that I have presented this most important subject in rather an imperfect manner, but if I have succeeded in calling your attention to a subject which I believe is not as well studied as it deserves by the profession at large, I shall feel that the time exhausted has not been spent in vain.

In closing I desire to acknowledge my indebtedness for the facts presented to such authors as Gowers, Dana, Gray, Ranney, Starr and others.

Peritonitis and Its Treatment.

BY T. E POTTER, M D, ST JOSEPH, MO

A paper read by title at the Missouri State Medical Association.

Peritonitis is separated into two great divisions—acute and chronic. Acute may be included under the following heads according to Quain: Traumatic, perforation and rupture, direct irritation of the peritoneum, extension, secondary, idiopathic and contagion.

There is some doubt in the minds of many whether there are really any truly idiopathic cases of peritonitis, and when they seem to exist, the fault no doubt lies with the observer and his lack of ability to find the true cause. The writer believes the time will come when such classification will be expunged from our text books, and in the language of Dr. Geo. Ross we might say: "Until we have further light upon this, we must allow for the rare occurrences of the disease idiopathically."

We are of the opinion that success in the treatment of so grave a disorder as peritonitis depends largely upon the physician's knowledge of the source of the malady and its location. The treatment of many cases is a failure, because he does not investigate thoroughly enough to be able to properly diagnose the difficulty; if he did, he would clearly see that the peritonitis was nothing more than a symptom, as pain is a symptom of neuralgia, or the elimination of albumen with the urine is a symptom of nephritis.

Then, if peritonitis is a symptom and not the disease *per se*, the cause should be, under all circumstances, most diligently searched for; and being found, should be either removed, or the patient have the best of attention, with the hope that the excitement may be quieted, and with the powerful aid of Nature, the trouble may be corrected.

In all cases after the cause has been determined fully, the next question is the best method for removal; and it is no small matter to say, in each individual case, just what is best.

An inflammation of the delicate peritoneal membrane has symptoms and results in common with inflammations of other structures, and we may expect it to terminate very much like those in other parts of the body, and if the cause is allowed to exist, a recurrence or extension is likely to take place.

Some of the causes of peritonitis are septic poisoning, originating generally from the septic center within the abdomen or pelvic cavity, tubercle, stricture of the bowels, intussusception, volvulus, or impaction of the intestines, appendicitis, gall stones, syphilis, malignancy, rheumatism, apoplectic clots, embolism, Bright's disease, exanthematous fevers, stabs or incised wounds, and blows of different kinds, hernia and perforation.

The full knowledge of the cause often determines the treatment and enables the physician in a measure to come to a satisfactory conclusion with reference to a prognosis.

Like other inflammations, we expect the difficulty to be self-limited and it may be expected to end in the form of resolution, effusion, suppuration, adhesion, gangrene or induration.

With this expectation we should act accordingly. If the cause is an appendicitis due to a foreign substance within the appendix, the sooner we make a laparotomy and remove the structure, the better.

If it is from twisting or intussusception, an operation is necessary, if it is from stricture, the cause must be removed by opening the abdomen, locating the difficulty, and either taking out a section of the bowel, or fixing the intestine together by anastomosis by means of the Murphy button, Senn's absorbable bone plates, etc. If impaction is the cause, every attempt should be made to remove fecal mass without an incision into the abdominal cavity. Should the attempt fail, an operation may be necessary.

If from a rheumatic diathesis, remedies like those that remove the disease from the articular surfaces, such as salicylic acid, salicylate of soda, and the coal tar preparation with opiates to quiet pain, will effect a cure.

In septic and tubercular peritonitis, are operations necessary? If not, what course is best to pursue?

In many of the two forms just mentioned, the trouble with the female originates in the uterus, following an abortion where a portion of the placenta has been retained, or at child birth, where the uterus has not been well cleaned, or where some septic material has been introduced from the surroundings and a salpingitis or peri-uterine cellulitis follows, extending to the peritoneum, causing a peritonitis. In such cases the physician should be sure that *all* septic material is entirely removed from the interior of the womb, and the cervix so thoroughly opened that free and uninterrupted drainage is insured, and the interior of the womb is entirely antisepticized by packing with iodoform gauze, and allowing a portion to extend out of the cervix, so that it can readily be removed. I do not like Polk's and Wiley's instruments for this purpose, but a narrow strip of iodiform or Alembroth gauze, with boric acid well rubbed into the meshes of the cloth of the latter, and crowded to the fundus of the uterus with a flat instrument tapering toward the end, but blunt at the point, so that no damage will result from a wound. Then the abdomen should be well painted with tincture of iodine. It is better to have it at least as strong as is laid down in the U. S. Dispensatory. Over this use hot cloths as hot as the patient can bear. Some recommend the

saline treatment here, but I am not favorably impressed with it. Opium to quiet the pain and prevent peristaltic action is in my judgment much to be preferred. Keeping the patient quiet adds materially in a favorable termination by resolution. If there is any evidence of purulent effusion, or effusion of any kind, as a small opening in the linia alba, and another in the right and left iliac region to admit of free drainage, may be of service. If the fluid that escapes is very purulent in appearance, it will not be out of place to wash out the cavity with a weak solution of boric acid, 30 grains to a pint, or a one per cent solution of carbolic acid, or 1 part to 10,000 of the bi-chloride of mercury. By this method the bacteria found in pus,known as streptococcus aurius or albus is destroyed, and the inflammation much reduced. There is no doubt that free drainage in these cases is of the greatest service, for it allows the semi-purulent excretion to pass off We washed out one peritoneal cavity thirty times, where there was a septic peritonitis, and after each washing the patient expressed herself as feeling sd much improved. By this treat ment I am confident her life was saved.

In tubercular peritonitis, both in children and adults, operating and allowing the effusion to pass off can not fail to be of service.

Andrew J. McKosh, in the supplement to the "Reference Hand Book of Medical Science," urges the necessity of washing the abdomen with sterilized water or Thiersch's solution of borosalicylic acid solution. Some recommend in cases of tubercular peritonitis that iodiform pencils be inserted into the cavity, as the influence of the iodoform is to arrest the development of tubercles.

If the tubercular cause is located in the fallopian tubes or at the appendix vermiformis, and the tubes or appendix are removed, the patient may entirely recover.

Dr. McKosh, on tubercular peritonitis, says: "While it is certain that laparotomy effects a cure in many cases, it is uncertain how this cure is brought about."

Osler says: "In some way the operation renders the condition of the peritoneum more favorable to the fibroid changes by which alone healing is induced."

We are inclined to the opinion that when the bacilli act upon the tissues, the excreta ptomaines is thrown off with dead leucocytes, and as this chemical product, ptomaines, is the inflammable cause, the drainage allows it to pass off with the bacilli, and in this way the system is freed from the poison.

In this short essay we would like to make the following summary:

1. That but few, if any, cases of idiopathic peritonitis exist.

2. In all cases the cause should be sought for, and as far as possible removed.

3. Operations upon the abdomen should be made with great caution, but if the cause can be removed, delay is hazardous, and as soon as the diagnosis is determined, the operation should be performed at once.

4. Washing out the abdomen with sterilized water and antiseptics are especially valuable in septic peritonitis.

5. In tubercular peritonitis much good can be accomplished from drainage through iodoform gauze.

6. In all cases where the peritonitis comes from putrid material left in the uterus, causing a salpingitis, such material should be removed at once by dilating the servix well, curetting the womb, then afterwards packing the uterus with antiseptic gauze, and as thoroughly as possible eliminating from the womb all septic material and establishing an avenue of escape for the discharge through the channel.

Syphilis as a Ground for Divorce.—The Supreme Court of Vermont considers, in the recently decided case of Ryder v. Ryder, syphilis as a ground for divorce. There is in that State, as in many of the other States, a law which provides that the marriage contract may be annulled when at the time of the marriage either party was physically incapable of entering into the mirriage state. It was found in this case that the wife, from whom the husband asked to be divorced, had, at the time of marrage, chronic syphilis, which was incurable; that at the time the man who married her supposed her to be chaste; that in about two months she communicated the disease to him; that he did not know that she had the disease until she communicated it to him; that he voluntarily cohabited with her before and after he knew of her disease; that a child was born to them about a year and four months after their marriage; that the child was a mass of syphilitic sores, attributable to the condition of the mother, and soon died; that, at the birth of the child and afterward, the mother was in about the condition of the child from such sores; that they both consulted a physician, who treated them some time, when she got better; that he believed from that time, until the child was born, she had got well of the disease, and would not be troubled again with it; that he never had intercourse with her after the birth of the child; and that at no time could he have sexual intercourse with her without great danger of contracting the disease. Upon these facts, the question presented to the Supreme Court was whether the trial court was in error in refusing to annul the marriage. A majority of the court thought it was. It was not found that the woman was fully aware of her condition at the time of the marriage. It would be presumed that she was not. If it were found that she was fully aware of her condition, she would have been guilty of a fraudulent concealment in not disclosing it to him she was about to marry. It would be an essential fact, entirely within her knowl edge, not within his, nor open to his observation nor to his inquiry upon any reasonable principles which do or should prevail in conducting the negotiations which lead up to entering into the contract of marriage.—Cincinnati *Lancet and Clinic.*

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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German-American Medical Journal.

Although some time ago we made the prognosis of premature marasmus and early death of the *Deutsch-Amerikanische Medizinische Zeitung* we must now confess to a slight error in our prognostication. The journal is still living and number three is before us, which looks rather reassuring and encouraging for this publication of involuntary medical wit and humor. The perusal of this last issue has been to us a source of unmitigated and keen enjoyment. We shall preserve it for future use to while pleasantly away an idle quarter of an hour and recommend it to our friends who understand German, as an infallible remedy for the blues.

We are glad to see that the *Zeitung* has acquired the associate editorship of the "Herrn Sanitaetsbeamten Doctor Medicinæ, Franz T. B. Fest, von Plank Road, Mich." This acquisition Doctor Blech, the editor-in-chief, considers a triumph. This Doctor Fest celebrates his triumphal entry into St. Louis medical journalism by an attack on Dr. Broome's paper, "Some Fresh Points in the Technique of Celiotomy." He calls him a crank. His Greek is below par and in order to show Dr. Broome up he gives some specimens of his own Greek galore. After this the associate editor proceeds to mop up the floor with Dr. Broome and American Surgery in general. The merits of the latter must, according to Dr. Fest, be very meager indeed. The best that he can say of it is a poor imitation of European methods. But he is condescending enough to concede to the American doctors the fathership of the "American vice," feticide. He concludes his article that as an innovator Dr. Broome is not a glaring success and finishes him with this Latin phrase: "*O si tacuisses philosophus mansisses.*" We shall not undertake to decide the question whether Dr. Broome would have remained a philosopher if he had kept quiet and we leave it to our readers whether the associate editor of the *Medizinische Zeitung* deserves the title of a philosopher in the light of these remarks.

We are delighted to again meet with some of the literary productions of Dr. Blech. He writes a charming article on the wonderful properties of antikamnia and we are pleased to see that the doctor is appreciated by his patients. After a remarkable cure of gastralgia the grateful patient gave vent to his feelings in these words: "Doctor, you are the best physician, because without the morphine needle" (the terseness of expression used by this patient is admirable) "of which I am in mortal fear you have cured me so quick as nobody ever did."

We are glad to see that the chief editor is still dispensing a German which ranks fully equal with the English of Josh Billings.

A New Medical Journal.

The first number of the *Southern Medical Review*, edited by N. J. Phenix, M.D., of Houston, Texas, has been placed on our table. The *Southern Medical Review* is a monthly journal, devoted to the advancement of medical science. Judging from its contents and general appearance we feel assured that this journal will meet with a hearty welcome and support of its contemporaries.

Bacteria in Eggs.

Dr. Charles T. McClintock, of the University of Michigan, details the following experiments which indicate that eggs become infected with microbes in many cases at least before they are laid (*Modern Medicine*). This fact emphasizes the importance of securing for our fowls as well as other food producing animals, healthful conditions of life.

A healthy, laying hen was obtained, and after repeated washings in a solution of bichloride of mercury, followed by sterile water, she was placed in a sterilized cage The hen continued to lay regularly every other day. The eggs were obtained as soon as possible after being laid, and a portion of them were placed in sterilized cotton and then in an incubator. If my memory is not at fault, all of those eggs decayed and swarmed with bacteria.

The remaining eggs were taken as soon as laid, and cultures were made from their contents. Some of these culture tubes developed; others remained sterile.

After some days the hen was killed, and with proper aseptic precautions culture tubes were inoculated from various portions of the oviduct. Most of these tubes developed. It would seem from this one case that the putrefactive bacteria entered the egg in its passage down the oviduct and before the shell was formed.

But to conclude that all eggs when laid contain putrefactive bacteria is not warranted. It is a matter of common household observation that a few eggs do not decay, no matter how long they may be kept, and the further fact that eggs packed in some dry material, as sawdust, salt, etc., and those greased or coated with gelatin, etc., keep longer than those left in the open air, would seem to indicate that the bacteria enter through the shell.

The Mode of Action of Iodine.

Extraordinary good results in the treatment of goitre by the application of the red iodide of mercury ointment to the enlarged thyroid and the exposure of the neck of the patient for many hours to the rays of the sun or a hot fire, were obtained by Drs. Holmes and Cunningham in India. Sixty thousand natives were treated in two years and a cure was commonly effected. Dr. Dawson Turner, of Edinburgh, offers a physical explanation of the action of iodine in these cases in the *British Medical Journal* as follows:

"The value of iodine as an absorbent has long been known. It is used to cause the absorption of enlarged glands, of serous effusions, and of thickenings due to chronic inflammations; and this action is believed to be due to a stimulation of the lymphatic system.

"My object in this communication is to offer a suggestion, from the point of view of the physicist, as to the mode of action of the iodine in these cases. Iodine is used in physical experiments to cut off the visible rays of the spectrum. A solution of iodine in bisulphide of carbon will quench the visible rays of the sun, but will transmit the invisible heat rays. The solution is remarkably transparent to the heat rays; it is diathermous. Now, the fact that Major Holmes found that the action of the ointment was much intensified by exposing the patients to the direct rays of the sun has appeared to me to depend upon the physical action of the iodine that I have mentioned. At any rate, I offer this as a suggestion. Further, the fact that the red iodide is so efficacious points in the same direction, because the red substance would also serve to transmit chiefly the heat rays. The solar radiation would be filtered by the application, and the gland would be subjected to the full blaze of the calorific rays without the vibrations of its molecules being interfered with by the visible rays. Professor Tyndall made some experiments with paper reddened by the red iodide of mercury, and found that it was also very transparent to heat rays; it therefore falls into line with simple iodine. If this suggestion as to the mode of action of iodine be correct, we do wrong in covering up diseased parts to which iodine has been applied; we ought rather to expose them freely to the sun's rays."

Physicians as Prescribers of Nostrums.

In an address to the profession and the public Dr. J. T. Graham, of Wytheville, Va., says (*Medical News*): There is a disease that has eaten like a cancer into our profession, and has weakened its constitution in many points. It is a contagious disease, and when once contracted it is hard to cure. It seems to enter the very life of the physician and finally causes his death. He carries the disease to his patients, and when they become infected they leave him and give it to others. The physician may keep this affection secret for a time, but sooner or later it will come to light. This disease has various names given it, but it is best known as the patent-medicine humbug. There is nothing so detrimental to the honor and dignity of the medical profession as the fact that many of our physicians will prescribe a medicine of which they know literally nothing, except that it was said to have been discovered and used by the Indians of the West or the negro slaves of the South, and that it is dispensed under a high sounding name, is protected by a trade-mark, and is recommended for every disease under heaven. All good and effective medicines have a very limited scope of usefulness, and whenever a physician becomes too negligent to study his cases and prescribe well-known and tried remedies for definite pathological conditions he is no addition to his profession. As long as pure drugs are manufactured, as long as scientific works on materia medica and therapeutics are written, as long as ample facilities for acquiring a knowledge of medicine exist, there is no excuse for the physician acquiring the habit of prescribing patent medicines. The physician who does form such a habit becomes a self-constituted and unremunerated agent to advertise the nostrums of the unscrupulous manufacturer, and assist in deceiving the public.

BOOK REVIEWS

The Physician's Wife; and the Things that Pertain to Her Life. By Ellen M. Firebaugh. With portrait of author and 44 photo engravings of original sketches. In one Crown Octavo volume of 200 pages. Extra Cloth, $1.25 net. Special Limited Edition, first 500 copies, numbered, and printed in photo gravure ink on extra fine enameled paper; bound in Half Leather and Vellum Cloth, $3.00 net. Philadelphia: The F. A. Davis Co. St. Louis: J. H. Chambers & Co., 914 Locust Street.

This pleasing pen-picture has not put in its appear-

ance any too soon, for in the course of another score of years it would have proven incomplete without a pendant entitled "the physician's husband and the things that pertain to his life," or to satisfy all demands, "the physician's mate" would be heard from. The voluminous discourses of all the learned antagonists to the breaking down of that prehistoric absurdity and hoary superstition, the woman's sphere, cannot and will not stem the tide of evolutionary progress. They strongly remind one of the philosopher (Nikolai) in Goethe's Faust, Part II, who in the sight of the spirits and spooks on the Brocken, emphatically denies their very existence. Not unlike him, the champions of the ancient order of things do not realize the rising of the tide though the winds may blow and the waves may beat about their heads and ears. The day will dawn when brains and not the bifurcated garment will bar or open the gateway to all intellectual pursuits—until then, let us give the place of honor to this unpretentious, well-merited tribute to our mates. But for their cheering, helpful presence would most of us fall victims to the blackest pessimism. If ever there was a class of men to whom it is allotted to penetrate into the meanest, darkest nooks of the human soul, it is that of the physicians. Woe to him who attempts to fight out the battle singlehanded; he will die a hopeless misanthrope or, what is worse, a callous money shark. To our readers we may say conscientiously: Buy it, read it!

E. C. R.

An International System of Electro-Therapeutics; for Students, General Practitioners and Specialists. By Horatio R. Bigelow, M.D., and Thirty-Eight Associate Editors. Thoroughly Illustrated. In one large Royal Octavo Volume, 1160 pages. Extra Cloth, $6.00 net.; Sheep, $7.00 net; Half-Russia, $7.50 net. Philadelphia: The F. A. Davis Co. St. Louis: J. H. Chambers & Co., 914 Locust Street.

A period of exultant enthusiasm is almost invariably followed by one of profound depression. As long as the former holds sway we are apt to overestimate the virtues of the object of our exultation while during the latter we give way to unsparing skepticism. This is certainly true with regard to electro-therapeutics. From a miraculous cure-all in the hands of everybody they have grown to be the property of a comparatively small clique of specialists. We agree with Dr. De Watteville as quoted by Dr. Bigelow, as to the absence of any theoretical and practical teaching at our schools having mainly prevented electricity from becoming really popular with the medical profession. Still the serious gap can hardly be offered by the striving physician as an excuse for his not becoming proficient in electro-therapy. A well-written book is preferable to an inefficient teacher. In the volume under consideration the practitioner will find a safe guide to the knowledge of all that pertains to electro-therapeutics. Dr. Bigelow and his associates have done their share in filling the above-mentioned gap; they well merit the hearty support of the profession.

E. C. R.

ABSTRACTS

MEDICINE.

Guaiacol, Its Modern Uses and Administration.—Penzoldt and Sahli, seeking to improve on the defects observed in creosote, in 1887 began the fractional distillation from Beechwood Creosote. They obtained by this process from 60 to 90 per cent, made synthetical from pyrocatechin and methyl sulphuric acid, obtaining in dry distillation the resin of guaiacol.

By slight manipulation the liquid was expressed almost pure and of agreeable odor. It was immediately placed in the wards of the Berlin Hospitals, and Max Schueller (*Chaite Annalen*, No. xix) began its investigation as a paraciticide, using the tuberculous bacilli for his studies, he found that it combined in the blood with the toxic products of the bacilli and hastened their elimination in the excretions.

Stolzenberg (*Berlin Klin. Wochen*, No. 5, 1894) used it hypodermically in doses of 2 to 10 c. c.

Scillion (*Deutch. Wochen.*, No. 6, 1894) found it in the urine within eight hours, and its odor was perceptible in the breath after the fifth hour.

Bard (*Lyon Med.*, No. 4) highly recommended it in tuberculosis, erysipelas and pneumonia. Children two to three drops, adults, three to five drops, three to four times a day, best exhibited in milk or wine.

Lannois (*Lyon Med. Rev.*, No. 6), was the first to report any objectionable features, he found large bullæ and exfoliation of the skin after injections.

Senator (*Berlin Klin. Wochen.*, No. 5) after a thorough study and use, reports that in moderate doses and in suitable cases, it acts well and promptly in reducing the temperature, but it should be given moderately, if not it occasions weakness, profuse sweating and dark colored urine like carbolic acid. He does not recommend more than 2 c. c. at a dose, and never above 4 c. c., and objects to its continned use.

The Badigeonnage Action of Guaiacol.—Following Ketchart's experimenting, that the mucous membrane of the rectum will assimilate as much and as readily as the stomach, Girntert (*Gaz. Herdom.*, No. 12, 1894) used it in enemata and obtained its full effects, nearly as soon as by ordinary ways, always within a few hours.

That the system rapidly absorbs guaiacol is proven by finding it in the urine after it had been introduced into the system by means of Curschmann's Mask Revillet (*La Lemain Med.*, No. 13). Recently it has been used locally by application and by hypodermic methods,

the latter is not so successful, many objections being offered as first pointed out by Lannois.

Dr. Whalen (*Jour. Amer. Med. Assn.*, April 28, 1894). As an addition to our knowledge of the effect of guaiacol, I hope that the following may be of interest:

Case I.—J. E. S., age 30. I saw the patient November 8. He complained of having had tonsillitis two weeks previously, but he had not regained his strength. Three days before I saw him he began to suffer from headache and appeared to have fever in the afternoon. When first seen by me, he was suffering from nausea, headache and constipation. He had a severe chill the preceding day. I found the temperature 103.5° F., pulse 100. I noticed a slight red blush near the lachrymal duct which had every appearance of the beginning facial erysipelas.

I ordered pure guaiacol applied to the affected area and for some distance beyond, in the hope of preventing further extension. The following day the patient claimed that he had experienced instantaneous relief from the application, that his headache shortly afterward disappeared and the fever gradually subsided, so that he was able to sleep for the first time in four nights.

His appearance, however, was much worse than on the preceding day. The rash had spread laterally to the ears, and had extended over the forehead to the border of the scalp. The eyes were completely closed from edema caused by escape of inflammatory exudate into the loose cellular tissue in this region. There was considerable delirium. At 10 A.M. temperature 104° F., pulse 100. Again applied guaiacol with the same satisfaction as before. The nurse found it necessary in this case to make three applications daily for the next four days.

Three hours after the application of the guaiacol the temperature was 97.5°. At 5 P.M., 100.5° F.

November 11, temperature, 10 A.M., 99° F.; 5 P.M. 100° F.

November 12, temperature, 10 A.M., 98.8° F., 5 P.M., 99.5° F.

November 13, temperature, 10 A.M. 98.6° F.; 5 P.M. 99° F. Patient discharged cured.

Case II.—I was called December 16, to see Mrs. S., mother of preceding patient. Had several previous attacks of erysipelas. At the time of my visit she had a temperature of 104.5° F. Complained of intense headache, dry burning skin and constipation. The rash had extended over the entire face, ears and forehead. Bullæ had formed in the ears. I applied the guaiacol as in preceding case with marked relief of the symptoms. At 1 P.M. temperature 102° F. At 3 P.M. temperature 101° F. At 5 P.M., 103° F. Again painted the face, when the fever gradually receded to 101° F. At 8 P.M., December 17, temperature 101° F., pulse 98. Urine scant and contained albumen. Guaiacol was applied once a day for the four succeeding days.

December 18, temperature 101° F., pulse 96. Albumen still present.

December 19, temperature 100.5° F., pulse 110.

December 20, temperature 100.8° F., pulse 106.

December 21, temperature 99° F., pulse 80. Trace only of albumen found in urine. Patient made a slow recovery.

Case III.—Mrs. H., age 27; eruption limited to the face. Bullæ had formed on the cheeks; considerable edema about the eyes. Patient was slightly delirous. At 9 A.M. temperature 103° F., pulse 100; ordered pure guaiacol painted over the face. At 12 A.M., temperature 100° F. At 2 P.M., 99 5°. At 5 P.M., 100.5°. At 8 P.M., 101° F., when the nurse was obliged to paint the face again. Guaiacol was applied twice a day for five following days. Temperature ranged from 99.5 to 101.5° F., when convalescence was established. No albumen found in the urine on repeated examination. Patient was discharged cured on the sixth day.

Dr. J. E Rhodes has kindly permitted me to mention a case similarly treated by him, in which the facial erysipelas followed an intense inflammation of the nasal mucous membrane. The temperature, which reached 105.2° F. was promptly reduced. On one occasion profuse perspiration and marked alleviation of the symptoms immediately followed the application. This case ran its course in one week.

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The chief points of interest in these cases are:

1. The short time that elapsed between the application and the resulting relief.

2. Repeated trials on the fourth case showed that a chill could be aborted by the external application of guaiacol.

3. Except in cases of extreme irritability of the skin, the application of pure guaiacol does not cause pain. In such cases the guaiacol may be diluted with alcohol, olive or any of the fixed oils to the desired strength.

4. The amount of guaiacol employed varied from 20 to 30 minims.

5. As might be expected, such a powerful effect was not without its drawbacks. In two cases I found a subnormal temperature. These figures suggest their own caution.

The action of guaiacol in controlling chills and fever, as in Case 4, I am inclined to believe is due to an anesthetic action on peripheral nerve endings. Absorption by a skin the seat of inflammatory changes is necessarily slow and could not account for the immediate fall of temperature noticed in these cases. Experiments have demonstrated that the temperature is not affected in animals if the site of the application is previously anesthetized. Guinard bathed the hind limbs of two rabbits with guaiacol; in one, the sciatic nerve was cut four days before. Here the application caused no fall in temperature, while with the rabbit with nerves intact, the same fall was observed as before.

The same author in the *Province Medicale* for February 17, states that if the parts are enveloped after the application, in two or three hours guaiacol may be found in the urine; and has drawn the following conclusion from his experiments: That guaiacol can penetrate

through the epidermis; that this penetration appears to be the result of an absorption of the vapor; that the envelopment of the painted region—thus keeping the vapor in contact with the skin—increases the proportion of guaiacol in the urine.

Dr. E. F. Ingals reports.—I have for six months been using guaiacol locally to relieve the dermatitis of the arm, following vaccination, in which I found marked constitutional symptoms. These were generally relieved by one or two applications of 15 or 20 minims.

In regard to its action on the course of the disease, I am not prepared to state positively. In all cases convalescence began not later than the sixth day, although the disease was very extensive in three cases. Albumen was found in the urine of only one patient. Delirium was present in two cases. I am therefore inclined to believe that convalescence was somewhat hastened in all these cases.

After having treated numerous cases by the various methods advacated by different authors, I believe guaiacol to be be the most efficient therapeutic agent that we possess at the present time. It is certainly preferable to any of the so-called antipyretics and anodynes usually used to reduce fever or to control pain.

Dr. Costa (*Med. News*, February 2, 1884) used it extensively in the Philadelphia Hospitals, in fevers, pneumonia, erysipelas and typhoid. He painted on from 15 to 30 drops, over the chest generally, in every case except one the temperature was lowered from 2 to 4°, and remained down from three to six hours, then began to rise again.

Dr. Costa urges that any dose rubbed in beyond 30 drops is dangerous, in several cases he witnessed the rapid fall of temperature, accompanied by profuse sweating, severe depression, feeble action of the heart, and signs of approaching syncopes.

Thayer (*Med. News*, March 31, 1894) used it systematically in the wards of Johns Hopkins in light cases, in all he noted the fall of temperature in two to four hours, in his cases, as soon as the lowest point was reached the temperature began to rapidly rise, reaching not only the original point, but going higher. The rise occurred usually in about one half the time of the fall. No marked influence was noticed in the pulse or respiration. Most of his patients complained of its depressive action.

Clemens (*All. Med. Cent. Zeit.*, No. 12, 1894), recommends guaiacol in diabetes, he used it in milk or wine three times a day, or rubbed in half a dram of the oil night and morning. It was well borne, improved the general conditions and had a marked and distinct effect upon both the elimination of sugar and the flow of the urine.

McNaugh (*British Med.*, May 24, 1893), reports good results from intralaryngeal injections of guaiacol in fetid bronchorrhea, and gangrene of the lungs, he used 30 minims of solution, consisting of guaiacol ʒjss, menthol ʒx, olive oil ʒviij, injected into the larynx once a day.

Balzer and Locoeur (*Union Medicale*, April 10, 1894), used an ointment of guaiacol two to three parts to thirty of vaselin, with great success in gonorrheal epididymitis. They claim that pure guaiacol can be rubbed into the scrotum or thigh, the first effects of the application are a heming sensation lasting for ten minutes, then a sensation of heat, and almost immediately the pain disappeared and did not return for three or four hours. Ordinarily it was necessary to make two applications the first day, but after the third day there was no longer any pain.

The consensus of opinion places the absorptive powers of the skin to be very slow on the thigh, more rapid on the chest, and quickest over the abdomen. Senator has shown that a dose easily borne on the leg would prove poisonous if painted on the chest or abdomen.

From the many observers who have used guaiacol internally, hypodermically, locally and by enemata, no choice is offered above another, perhaps at present it is being used more generally by inunctions or painting on the surface. A surprising unanimity exists among its users that guaiacol is a singularly uncertain and unreliable remedy, that it will rapidly reduce fever, no matter from what cause, is abundantly proven, but it will not control the heat production, or even keep the temperature down, has been the experience of all. The moment the temperature falls, the drug loses its influence upon the system, and the fever rapidly mounts again, not to where it was originally, but always a degree or so higher. This rapid check to the system, for that is all that it can be called, may do possible harm to the kidneys and other organs whose elimination depend upon blood pressures. Both Thayer and De Cesta agree that "it was not observed that any influence was exerted upon the general course of the disease on which the agent was employed." It is advisable to watch the urine, for in all cases of administration in the skin it is chiefly by the urine that the medicine escapes the system. The urine is generally increased, but so far no author has observed albumin or distinctive signs of kidney trouble.—Robert Safford Newton, M.D., in New York *Polyclinic*.

The Ice-Bag as a Cardiac Stimulant.—A writer in *La Medicine moderne* is quoted in *La Province medicale* for April 7 as saying that the application of an ice-bag over the heart, according to Dr. Jullien, is a powerful therapeutic measure. It seems that in 1887 M. Jullien read in the *Gazzetta delle cliniche* an essay on this subject by Dr. Silva, and was struck with the author's conclusions. Experimentation upon animals had shown the possibility of raising the blood pressure rapidly from a hundred and twenty millimeters to a hundred and seventy and even a hundred and ninety, and of diminishing the frequency of the pulsations considerably; and these results had been confirmed clinically. M. Jullien was not slow to verify these observations for himself. One day he was called to take charge of a patient attacked with typhoid fever. He advised

treatment by means of cold baths, and transferred the patient, a large and strong young girl, to the care of a colleague. Soon afterward, however, his colleague's illness rendered it necessary for him to take charge of the case again. It was a grave one and the febrile phenomena were intense. The elevation of temperature proved rebellious to the use of cold water. Soon there was a typical picture of the ataxo-adynamic form of the disease. The patient had lost consciousness entirely and lay on the bed entirely uncovered in a tetanic attitude varied only by certain spasms of the head. The temperature remained all the time above 104°; the pulse had reached successively 120, 140, and 160. Under these circumstances M. Jullien fancied that the application of ice over the heart might constitute a last resort, and he made bold to carry it out. He admits that it was not without timidity that he placed the rubber bag on the region which scarcely showed the tumultuous and enfeebled beats of the exhausted heart. He watched the pulse closely, ready to stop the attempt at the first signal of danger. But in less than fifteen minutes he saw the number of pulsations diminish and their amplitude increase; in a short time the almost imperceptible undulations of the artery gave place to more decided elevations. Whenever he removed the refrigerant the alarming symptoms returned immediately, so that after many trials he concluded to leave the ice-bag in place for several days. After that the temperature yielded, the cerebral phenomena disappeared, and the patient was out of danger. He is convinced that she owed her safety to the decisive measure which he had adopted. In another case also he accomplished a result equally remarkable by this means. In conclusion, he remarks that the beneficial effects show themselves in from fifteen to twenty minutes from the beginning of the application, and reach their maximum at the end of an hour. It is true, he says, that they are very evanescent, disappearing rapidly when the application is suspended, but there is no danger in prolonging it as long as the general condition remains precarious. In some cases, under its action, the height of the pulsation has been observed to be tripled, which means a pulse ampler, fuller, and more tense, with the subsidence of dicrotism, intermittence, and irregularity, and with a longer duration of the diastole. An interesting fact noted is that the effects of alcohol and those of atropine on the circulation are in a measure neutralized by the ice-bag. This, says the author, is not astonishing, since alcohol has the property of lowering the blood pressure by paralyzing the vaso-motor nerves, and atropine increases the frequency of the pulse by paralyzing the pneumogastric nerve. This antagonism, he suggests, may possibly be serviceable in some cases of poisoning.—*Medical News.*

Pain and Hyperesthesia of Central Origin.—Biernacki (*Deut. Med. Woch.; Am. Medico-Surg. Bulletin*). The author describes a case of Edinger in which there was hemorrhage into the external nucleus of the optic thalamus and the pulvinar. Soon after an apoplectic attack severe pains began to manifest themselves in the paralyzed extremities, and, although power returned, the pain grew so much more intense that the patient committed suicide. The lesion was as described, and close to the sensory cross-way.

Biernacki then reports a case of right sided hyperalgesia and spontaneous neuralgic pain of five years' duration. The history was, that five years before the patient came under observation, the right half of the body became weak. A year later, involuntary spasms developed in the right hand, with severe spontaneous pains in the whole right half of the body. On examination, the sensation to tactile impressions was present on the whole of the right half of the body, but was somewhat duller than on the left side. The sense of localization and conduction of tactile impressions was unaffected. But there was very marked hyperalgesia on the whole right half of the body, slight pinching or pressure on the muscles causing the patient to groan. There was also spontaneous neuralgic pain on the right half of the body. On account of this hyperalgesia, percussion of the chest, palpation of the abdomen and all passive movements caused the patient great pain, and thereby the neuralgic pain in the right half of the body was increased. Beyond an apparent hyperesthesia to cold, there was no affection of the sense of temperature or the muscular sense. There was paresis of the right arm and leg, and some resistance to passive movements. There was also right-sided athetosis, and by irritation of the right side of the body, pinching or pressure on the muscles, hemichorea was developed. Physical signs of pneumonia were found in the upper lobe of the right lung, and the patient died five days after admission to the hospital.

Post-mortem examination revealed patches of pneumonia in both lungs and chronic parenchymatous nephritis. In the brain there was a round cyst filled with serous fiuid (apoplectic cyst), about the size of a pea, in the outer part of the left optic thalamus, situated just above the junction of the middle and posterior thirds and close to the posterior part of the internal capsule, which contains the sensory fibers. Around the cyst were small brown spots. The left optic thalamus was very much smaller than the right. Its surface was wrinkled, and the left pulvinar was also smaller than the right. Apart from hyperemia, no other changes of importance were noted in the brain.

On microscopical examination, descending degeneration of the fillet was found on the left side, but the pyramidal tracts were normal.

Descending degeneration of the fillet has been many times observed. It does not give rise to hyperesthesia and pain, however. In the absence of other brain lesion, one must allow that the apoplectic cyst was the cause of the hyperalgesia and pain. These symptoms may be explained by the prersure of the cyst on the part of the internal capsule which contains the sensory fibers. The new formation of connective tissue around

the cyst, and the shrinking of the optic thalamus in the neighborhood of the sensory part of the internal capsule, would give rise to a permanent dragging on the sensory fibers, and thus produce the hemi hyperalgesia and pain.

The author then refers to two other cases of spontaneous neuralgic pain with hyperesthesia (recorded by Grieff and Lauenstein). In these cases at the autopsy a lesion was found in the optic thalamus, in the neighborhood of the sensory fibers of the internal capsule; but in both cases other parts of the brain were also affected.

A few cases are on record of spontaneous neuralgic pain without hyperesthesia. Biernacki refers to several cases in which the lesion was in the pons or medulla. Also, cases are on record of unilateral hyperesthesia without pain. In some of these cases a lesion of the pons has been found. The author then refers to cases of paresthesia from affection of the cerebral sensory tracts, and to paresthesia in the paralyzed limbs of hemiplegic patients, owing to vasomotor disturbances.

Meat in Wasting Diseases.—Extensive clinical observation has demonstrated, says the *Journal of Balneology*, that the chief element in the effective management of phthisis and other wasting diseases is proper nutrition, carried, if possible, to hypernutrition. Tuberculosis does not, in a large proportion of cases, progress without interruption to a fatal issue. Exacerbations and remissions in the process are not infrequent, although in most cases the final result is more or less gradually approached. In the early stages, even before the local process is at all defined, a progressive emaciation indicates that the nutrition is the first point of attack of this malign enemy. If in this stage the patient is removed to more favorable environment (as has been observed among the tailors of Hester street who are brought to the Montefiore Home), as he is subjected to careful and progressive dieting, baths, exposure to fresh air during the day and night, a change in the entire aspect of the case may obtain. Cough, expectoration, fever, debility, seem to vanish. The chief cause of improvement is attention to the patient's nutrition, which involves not only a better quality and larger quantity of food, but its better preparation and subsequent improved utilization by increased supply of pure air. The simple increase of ordinary food not infrequently improves the patient's condition, especially if the food is made more palatable by skillful cooking.

To supply the phthisical patient with an excess of food which is utilizable and yet not too expensive, is the aim of hospital authorities who have the interest of these cases at heart. By the addition of fats and alcohol this may be accomplished most readily and economically, because their cost is far below that of animal food, while their value in celorics is very large. Butter and cream, brandy or beer, milk punch, become valuable adjuncts. As Hirschfeld has well put it, it is a fallacy to seek the idea of an invigorating diet in a meal of English roast beef while other demands are neglected. The important consideration is the need of food by whose oxidation heat is evolved, but which, nevertheless, may be accepted by the patient in sufficiently large quantities to be useful—in other words, articles of food which are nutritious in the widest sense of the term. Among well to do patients it is especially important to disabuse their minds of the idea that only in an abundant meat diet is to be sought the highest type of nutriment. To accustom these to the idea that milk, butter and a mild cheese are the better foods is often a difficult task. That these articles are extremely useful in phthisis the writer has had frequent opportunity to demonstrate. Only recently a case of progressive phthisis, with a rapidly forming cavity in the apex of the right lung, high temperature and sweats, continued to gain flesh under a diet of rice, milk, cream cheese, no bread and butter, with but little meat. This patient gained thirteen pounds in three months, despite the destructive process going on in his lung. He was subjected to daily hydro-therapeutic procedures, by which his appetite and strength were maintained. The point we desire to emphasize is that it is a fallacy to regard meat as the ideal food in wasting diseases—a fallacy which not only exists in the lay mind, because beef tea is still its common exponent, but it is not infrequently encountered among otherwise well-informed medical men.—*Dietetic and Hygienic Gazette.*

Sewer Gas and Typhoid Fever.—It is now more than thirty years since two eminent physicians discussed, with some heat, in the columns of the medical papers and elsewhere, their theories on the origin and distribution of typhoid fever. While Dr. Murchison and his party regarded the exhalations from drains as the specific cause of typhoid, Dr. Budd and his supporters argued that the gases from putrid liquids were only capable of producing this disease in the presence of some particular contagion. The discussion was taken up on the Continent, and the sewer gas theory was vigorously fought over, but towards 1880 the whole subject was revived, and its supporters were later confronted with the results of bacteriological investigations on sewer-air, which showed that there were not more organisms present in drains than in the outside air, and that, under normal conditions, currents of air were unable to detach disease microbes, should they be present, from the effete materials in the sewer.

Meanwhile English hygienic authorities, without waiting for the scientists to make up their minds on this crucial question, preferred to act, at any rate, on the assumption, supported as it was by much experience and many facts, that the exhalations from drains were undesirable and dangerous in our houses and surroundings, and should be rigorously excluded. The advance in sanitation, and its splendid results during the past ten years or so, is a sufficient testimony to the wisdom of the agitation which determined the crusade

against bad drainage and unsanitary appliances in this country.

But the inquiring spirit of the scientist, which abhors blind empiricism, and seeks always to reach the root of the matter, has again been exercising itself on the question of the spread of disease by sewer-gas, and it is significant that in the most recent report to hand on sewer-air the direct connection of the latter with the distribution of zymotic disease is delared to be still wrapped in mystery and uncertainty, and we find our precise and scientific information on this subject as meagre as it was some thirty years ago. All the more important and welcome, therefore, are some very original investigations which have just been published by Dr. Alessi, who has not contented himself with finding very few and harmless microbes in sewer-air, but has submitted the whole question of its relation to typhoid fever to a searching experimental inquiry.

For this purpose the effect of inhaling sewer-air and the gases from putrefying materials was examined on animals—rats, rabbits and guinea pigs being selected. After exposure to sewer-air, which was accomplished by placing them in a box with a perforated bottom communicating directly with a drain, they were inoculated with a small quantity of only a slightly virulent cultivation of the typhoid bacillus; whilst other animals were similarly treated, except that they were not compelled to inhale these noxious gases, but were kept in their ordinary surroundings. The rats, after inhaling this foul air, began to lose their vivacity, and after a time grew thin, although they ate voraciously, and out of forty-nine which were inoculated with typhoid germs thirty-seven died exhibiting the typical symptoms of typhoid infection. Of those forty-one rats, however, which, although infected with typhoid, had not inhaled sewer-air, only three succumbed. Thus the inspiration of drain air had so far predisposed these animals to infection from typhoid that a small dose of an almost harmless growth of this organism proved very fatal to them. Guinea-pigs and rabbits exposed in like manner to gases from materials in a condition of active decomposition also acquired a predisposition to typhoid infection, for out of seventy-two guinea-pigs inoculated, fifty seven died, while not one of those treated with typhoid germs in ordinary surroundings succumbed. Every one of the eleven rabbits similarly treated died, but not one of the inoculated animals kept in ordinary surroundings. Dr. Alessi also found that the inhalation of these gases from putrid substances enabled a small dose of a weakened culture of the bacillus coli communis, normally present in the intestine, to produce fatal results when purposely introduced into the animals thus exposed.

It was also ascertained that it was during the first two weeks of exposure to these noxious gases that the animals were most easily predisposed to typhoidal infection, for no less than ninety per cent of all the animals inoculated during the first fortnight died, whilst seventy-six per cent succumbed of those inoculated in the third week. This fact may, says Dr. Alessi, partly explain how it is that some people who habitually breathe contaminated air do not appear to suffer any evil results, having gradually in course of time become accustomed to it, whilst a stranger exposed to the same condition without previous experience may suffer very severely. The degree of predisposition, however, whilst varying in different animals, would also vary in different people.

These investigations must be regarded as a noteworthy and important contribution to our knowledge of the distribution of disease, affording as they do so remarkable an experimental confirmation of the wisdom of a policy of sanitation dictated by instinct and intuition.—*Nature.*

Heart Inflammation in Children.—This is the first of a series of lectures to be delivered before the royal College of Physicians. A strikingly instructive lecture delivered by Octavius Sturges, M.D., from data collected during his vast hospital experience. A case reported is of such great interest that I copy it just as it appears in the *Lancet.*

"A girl, aged seven years and ten months, anemic and ill-nourished, was admitted to the Hospital for Sick Children, Great Ormond Street, on April 28, last, with a history of six weeks' pain in the limbs, and for the previous three days swollen and painful joints. These symptoms had attracted but little notice in the family until twelve days before admission, when the child complained of pain at the heart, was seen to be short of breath, and had to be propped up in bed. The girl had never had rheumatism before, and was not of a rheumatic family. On admission the respiration was 36, the pulse was 120, regular both in force and frequency, and the temperature was 99° F. There was marked pulsation in the vessels of the neck, but no venous enlargement elsewhere. The area of cardiac dullness was not increased. A systolic thrill could be felt at the apex, and a loud blowing systolic murmur heard at the same place and conducted round to the back. Inside the nipple and a little above it the second sound was inconstantly reduplicated. For the following three or four days no particular change occurred. The child soon ceased to have pain, the area of heart dullness did not alter, nor did the heart sounds. The child was quiet and restful but lethargic. Anemia was more extreme. On the fourteenth day of residence, however, a marked change occurred. It began with an attack of nose bleeding, followed by a sleepless night. The child complained of headache. The temperature rose to 102°, although there was no return whatever of joint pain.

"The heart was tumultuous in action and its impulse was forcible and diffuse, the apex being apparently in the fifth space; the murmur was now of harsher pitch, so-called 'musical' in character, and was audible a finger's breadth outside the nipple line, where it abruptly ceased.

"Within the nipple a very slight diastolic sound was

heard, the commencement, as it seemed, of friction, which was afterward distinct. The urine was now found to contain a trace of albumen and some blood. Hereupon (we have now reached the thirty first day from the first heart pains and dyspnea) the most characteristic signs of active carditis appeared, that is to say, the child though free from actual pain and without marked dyspnea, was anxious and restless, the little sleep she got being disturbed by mutterings and painful visions. A friction sound (to and fro) was now audible, its maximum intensity being at the ensiform cartilage, but it was distinctly heard as high as the second costal cartilage. The pulse (140) was still regular, and the temperature was from 100° to 101°. The area of cardiac dullness now for the first time began to enlarge, transgressing the left border of the sternum to the right, and a finger's breadth outside the left nipple to the left, the upper limit reaching the third space. It continued to enlarge somewhat for a while, but presently receded, and at death was hardly larger than on admission.

"Without staying to record daily changes, such as the distinctive friction rub and the thrill, the varying character of the apex murmur, the heart's action, now more, now less forcible and excited, while the veins of the neck began to show marked reflux, the patient being restless, free from pain, but tender on percussion over the cardiac area, we come to May 31, the forty-second day from the first heart symptoms and within five days of death. It was on this day that vomiting set in, and it persisted. The area of cardiac dullness rapidly decreased, and the rub was but indistinctly heard. There were increased restlessness, groaning, difficult, yet not very rapid breathing, intense anemia, constant sickness, pericardial effusion, rapidly diminishing the while. The regurgitation in the neck veins increased, and now for the first time (a few days before death) edema of the legs and signs of pulmonary edema noticed.

"So the story closes June 5. At the latest stage there was considerable engorgement of the lungs, perhaps accelerating death a little. The whole duration of the carditis was forty-seven days."—Ewing Marshall, M.D., in *American Practitioner and News.*

SURGERY.

A Case of Enterectomy for Gangrenous Bowel.—The following case is reported by Paul (*Brit. Med. Jour.*) to refute the objection urged against his operation, that it would not always be possible to invaginate the enlarged proximal end of the bowel into the distal shrunken end, and in such cases would therefore be useless. He believes it unimportant which way the bowel is invaginated, though the downward method should probably be preferred when feasible.

S. R., aged fifty-one, came under his care at the Royal Infirmary on June 20, 1893. She was rather a delicate-looking woman; had never been strong since she suffered from spinal curvature as a child of eleven. Early in December, 1892, a week after lifting a heavy weight, she first noticed a lump in the left groin; it was soft and painless, and had remained there ever since. For a few months she had been subject to attacks of vomiting near the menstrual period, unaccompanied by any change or pain in the lump. One of these attacks commenced very suddenly on June 14, and continued two days. On June 17 medical treatment was instituted with success until June 19, when vomiting returned and was inclined to become stercoraceous. There had been no movement of the bowels nor passage of flatus since June 14.

On June 20 patient was seen by the writer for the first time; the abdomen was slightly distended; there was severe umbilical pain, absolute constipation, and vomiting, together with a small femoral hernia, tense but painless. Her general condition was quiet, pulse under 90, temperature 98.2° F. She was at once taken to the operating-theater and anesthetized. The sac was opened, exposing a small portion of the bowel, which looked recoverable, but upon releasing the constriction and drawing down a little more bowel, the contents began to ooze through an ash gray slough on the proximal side. The bowel constriction extended an inch and a half; on the distal side there was no distinct slough. Incision was made in the median line between the umbilicus and the pubis, a sponge introduced beneath the inner opening of the hernial sac, the bowel cleansed in the sac, reduced with the left hand outside, and rapidly withdrawn from the abdomen with the right hand, previously placed inside to receive it. The peritoneum remained clean during the process. The bowel was then clamped above and below, the injured part quickly cut with the scissors, the bleeding points tied, and one of Paul's bone tubes (made of decalcified bone. For detailed description of Paul's method, see *Lancet*, May, 30, 1891), one inch by one and a quarter inches, sutured into the upper end. The upper end was dilated and thickened, and it proved impossible to invaginate it into the shrunken lower end. The tube was, therefore, changed for a smaller one (five eighths of an inch by one and a quarter inches), which was sutured into the lower end. The traction thread was passed, the cut ends attached, and invagination performed. The bowel was invaginated upward instead of downward, a variation which was not found to increase the danger in the original experiments on dogs. As the traction thread had been passed through distended and, perhaps, partially paralyzed bowel, the needle puncture was secured with a single Lembert suture. Fine green catgut was used for all internal sutures, and fishing-gut for the abdominal wall. The abdomen was closed without drainage, after sponging out of the peritoneal cavity a little blood-stained serum which was present before the operation. The hernia wound was closed above, the lower part being left open for drainage. The entire operation, including anesthetization, lasted one and a half hours. Patient promptly recovered from slight shock of opera-

tion. Vomited a little during the night and complained of pain in the back. She progressed favorably until the eighth day after operation, when she had an attack of pain and sickness, apparently due to excess of food, from which she promptly recovered on lessening the amount given. The highest temperature reached was 99.2° F. on the evening of the sick attack. Six weeks after operation she left the hospital cured. Half a year later had had no return of trouble and pursued her avocation of nursing.

In the same number of the *British Medical Journal*, Horrocks cites a case in which excision of intestine for malignant disease and circular enterorrhaphy by Paul's method was successfully performed The case is as follows:

C. H., a married woman, aged 38, was admitted to the Bradford Infirmary on August 29, 1893, with obstruction of the bowels. She had been an in-patient in October, 1892, with similar symptoms, which were relieved by starvation and opium. She suffered almost constantly from severe abdominal pain, shooting around the loins to the back. The pain was spasmodic, sometimes lasting several hours, and when very severe caused emesis. The bowels were usually relaxed, but during and after the severe attacks of pain they were confined, sometimes for several days. She had had four children; menstruation was painless and regular. She showed no signs of general wasting, though of spare habit. A systolic bruit was heard at the apex, which was not displaced. The abdomen was somewhat full at the lower part, with the umbilicus everted and the skin marked with atrophic scars. The percussion-note was normal over the abdomen. Above Poupart's ligament on the right a solid tumor was felt; it consisted of two parts, divided by a vertical groove.

By vaginal examination the uterus was found displaced downward, with cervix pointing towards the sacrum. Occupying the right fornix and extending in front of the uterus was a rounded swelling, which was continuous with the tumor felt above the pubes. This mass felt hard. It was divided into two parts by a groove and moved independently of the uterus.

On September 29 an exploratory abdominal operation was performed, in which the tumor was found to implicate a considerable portion of the small intestine; the wound was closed and healed without complication. On October 19 the writer operated, the operation lasting an hour and twenty minutes, with chloroform anesthesia for the first twenty minutes and ether for the remainder of the time. An incision three inches in length was made in the median line rather above the umbilicus. The tumor was adherent to the abdominal wall, along the line of the old scar, which was below the fresh incision. The adhesions were mainly broken down, but the most adherent part of the abdominal wall was cut away with the growth. The tumor was then drawn out of the abdomen and the opening packed with antiseptic cloths. The intestine beyond the growth on each side was emptied, and an elastic tube was passed through the mesentery around the gut. A V-shaped piece of mesentery, containing enlarged glands, was separated and the bleeding vessels tied. The bowel was now cut across transversely on each side of the growths and the implicated intestine with its attached mesentery removed. A Paul's bone tube was inserted into the open end of the intestine of smaller lumen and the free margin of the bowel stitched to the end of the tube with continuous silk suture; the thread was passed through the holes in the tube and the muscular and peritoneal coats of the intestine. Additional stitches were inserted at the mesenteric attachment. The other cut end of the bowel was now brought into apposition, after the threaded needle connected with the tube had been passed through the intestinal wall from within out, about three inches from the incised extremity. The two ends of the bowel were now stitched together by a continuous Lembert silk suture. By traction on the thread and manipulation of the bone tube the bowel was invaginated for about three-quarters of an inch. It was fixed in this position by a continuous silk suture, which included only the peritoneal and muscular coats. The needle was now cut from the traction thread, which was drawn into the gut. The margins of the mesentery were stitched, partly by interrupted, partly by continuous sutures. The extremity of the vermiform appendix was inflamed and adherent to the tumor. The appendix was ligatured near its proximal end, the distal end removed, and the stump closed in by three silk sutures. The abdomen was cleansed and a glass drainage-tube inserted, with its lower end reaching the bottom of Douglas' pouch. The abdominal wound was closed with silkworm sutures, the end of the drain projecting at the lower end of the wound.

The intestine removed was about thirty-nine inches long. At two places its wall was invaded by growth; the growth was about the size of an orange, consisting of tumor and convoluted intestine, fixed by firm adhesions. The lumen of the intestine was much narrowed and the mucous membrane ulcerated at the point. There was a second growth of smaller size, separated from this by healthy intestine. The mesentery showed several enlarged and infected glands. The growth was a large round-celled sarcoma rising from the submucous tissue.

The patient quickly rallied from the operation, and was discharged November 23, 1893.

NOTES AND ITEMS

The Last Illness of Dr. Brown Sequard.—Dr. Ogle gives the *Lancet* an interesting account of the illness of the late Dr. Brown-Sequard. It appears, he says, that for some years past Dr. Brown-Sequard had not seemed to his friends to be in good general health. He had, in 1889, been the subject of severe muscular

rheumatism, and in the autumn of that year he suffered from some prostatic trouble. From these ailments he entirely recovered. During the following winter and spring, when at Nice, he had an attack of whooping-cough, as was mentioned in the *Lancet* at the time. He was then regularly using his orchitic fluid injections. During the next two years he remained fairly well, working very hard and writing much, sometimes answering as many as eighty letters in the day. In the summer of 1893 he suffered great distress of mind owing to the ill health of his wife, and in December he was residing at Nice and was confined to his bed, suffering from phlebitis, when his wife was dying. The consequent grief perfectly unmanned him, and was quite uncontrollable, and for some time he took but little food and was unable to sleep, refusing to leave the house. He returned to Paris at the beginning of March. Then came the vertigo and affection of sight, followed by the unconsciousness which he himself wrote about to Dr. Waterhouse, and from which he recovered. Dr. Dupuy says that at that period the speech remained "thick" and embarrassed at times, and that Dr. Brown-Sequard remarked: "This is an attack of epilepsy, as you can see." Instead of going to bed as desired, he wrote several letters, and, no doubt, wrote the letter to Dr. Waterhouse above alluded to, relating his symptoms and speculating upon them. During the following day he was in the same condition as regards vertigo, hemiopia, and occasional thickness of speech, but there was no aphasia He was then visited also by his friends, Dr. Dejevine and Prof. Potain, together with Dr. Dupuy, but could not be persuaded to take adequate rest and nourishment. On the next day (Friday) he consented to take meat, milk and bread in small quantities throughout the day, and was comparatively cheerful. At the close of the day his face became much flushed, and the vertigo and hemiopia very distressing, and in consequence of this he walked from one room to another on "all fours," giving at the time the analysis of his symptoms and the prognosis of his case, as if he was contemplating and discoursing on the illness of another person. During the night of that day he was seized with vomiting, and in the early morning it was found that he was unable to speak and that the left arm was paralyzed as to power of movement. Dr. Dupuy found later on that paralysis of the muscles on the right side of the face existed and that the tongue was protruded to the right side. The left leg and the arm and leg on the right side were unaffected. There was no muscular spasm in any part, no interference with sensation, either general or special; but vertigo was much increased, and there was external strabismus of the right eye. The condition of speech was the same, and there was still no aphasia. Toward the evening of the day the face became exceedingly congested on several occasions, and the blood vessels of the forehead much swollen, and there was drooping of the upper eyelid of the left eye. During the morning of the next day (Saturday) he made Dr. Dupuy understand that he wished to write on a slate, but the result was uninteligible, excepting that the word "hyperesthesia" was recognized. He then saw some friends with pleasure. At 2 P M. on Sunday he became entirely unconscious, and coma set in. The axillary temperature rose to 40° C.—*i. e.*, 140° F., and he died without a struggle near midnight. After the cessation of breathing and of the heart's action all the muscles of the legs and arms were for several minutes in a state of fibrillary contraction, and the axillary temperature at the point of death rose to 41.5° C.—*i e*, 105.9° F. No post-mortem examination could be made.—*Medical Record.*

Effect of Intoxication on Testamentary Capacity.—A man may habitually indulge in intoxicants, and yet possess testamentary capacity, the Prerogative Court of New Jersey holds, in the case of Fluck v. Rea, if at the very time of the execution of the will he is able, and does, clearly comprehend the nature and effect of the business in which he is engaged. The rule in such cases is there quoted from Chief Justice Denio, of New York, and is in this language: "It is not the law that a dissipated man cannot make a contract or execute a will, nor that one who is in the habit of excessive indulgence in strong drink must be wholly free from its influence when performing such acts. If fixed mental disease has supervened upon intemperate habits, the man is incompetent, and irresponsible for his acts. If he is so excited by present intoxication as not to be master of himself, his legal acts are void, though he may be responsible for his crime."—*Med. News.*

Two Portals of Entry for the Tubercle-Bacillus.—There are not a few cases of tuberculosis in which the source and route of infection elude detection. Boulland (*Limousan Med ; Revue de la Tuberculose*) calls attention to two possible channels of communication which have hitherto received little or no consideration. The exposed cavity left in the gum after a tooth has fallen out spontaneously or has been removed surgically presents an absorbing surface capable of affording lodgment for tubercle-bacilli that may be present in insufficiently cooked tuberculous meat or other food. Under these circumstances tuberculous involvement of the glands of the neck may be the first indication of infection. The second mode of infection is by the entrance into the ear of the child during labor of blood of the mother containing tubercle-bacilli, with the development subsequently of a tuberculous suppurative otitis, which may in turn lead to general infection. It thus becomes a wise precaution to irrigate with an antiseptic solution the ears of children born of tuberculous mothers —*Med. News.*

An Epidemic of Priapism.—Dr. Meynier, a French army surgeon, has recently published a curious bit of medical experience. A company of troops en route having halted for some time at El Hacaiba, the men were nearly all seized with priapism and prolonged and painful erections. Considering that an absence for

some time from a garrison town might be the cause, the surgeon ordered light diet and flaxseed tea. The condition, however, became steadily worse. The erections continued throughout the company, and the men began to complain of great lassitude and dryness in the throat. Finally many had marked hematuria. Careful investigation disclosed the real cause of the trouble. During their leisure the men had been hunting frogs at a neighboring stream. The poplar and willow trees along the banks were found to be thickly covered with coleoptera of the family of cantharides, *meloe*. Chilled in the early morning they fell by thousands into the water, where they were gladly and greedily devoured by the frogs—which later gave similar pleasure to the soldiers. The taste of the flesh was in no way injured, but its effect upon the genito-urinary system of the divers was disastrous. The removal of frogs' legs from the bill of fare put an end to the curious epidemic in a few days. —Boston *Med. and Surg. Jour.*

℞ For Painful menstruation not dependent upon mechanical causes

℞ Potassi Brom 3ss
Fluid Ext Ergot 3ss
Elix nutrous q.s. ad 3viii
M Sig - One tablespoonful at a dose, three times daily. To be administered three days before appearance of menses.

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MOUNTAIN LAKE PARK.—On the main line of the Baltimore & Ohio Railroad; on the crest of the Alleghenies, 3,000 feet above tide water, is one of the most charming and healthful resorts and contains 800 acres of forest and glade. The temperature is delightful and hay fever and malaria are unknown. The Park is lighted by electricity. The hotels and boarding houses are first-class; board from $7 to $15 per week. Furnished cottages or rooms at reasonable rates. All Baltimore & Ohio trains stop at the Park. Write to L. A. Rudisill, Superintendent, Mountain Lake Park, Md., in regard to hotels, etc., and for information as to time of trains, rates of fare, etc., call on any agent of the Baltimore and Ohio Southwestern Railway, or address O. P. McCarty, General Passenger Agent, St. Louis, Mo. 28

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P, LONDON.

(*Veterinary Journal.*)

[CONTINUED].

Analogous susceptibility is displayed by the human female in the disturbance, mostly arrest, of menstruation that so often attends change of residence. I have met with innumerable instances of this. Nothing is more common than for maid-servants coming from the country to London to have amenorrhea for some months. Among ladies many instances of disorder have come under my notice from foreign travel; but the effects are not always injurious. Making due allowances then we may now renew the evidence at our disposal.

Mr. Simpson's statements, based upon observations made on his own cattle, are as explicit as they are reliable. He states that his heiffers usually arrive at puberty at from six to nine months, and sometimes even earlier; and that after the establishment of symptoms of heat or "bulling" the rut occurs, when the bull is not allowed access with strict regularity every twenty one days or three weeks. Oestro-menstruation is shown by swelling of the vulva, which at first weeps an odorous mucus, but soon this becomes quite red from the presence of blood; and when that stage is attained, the heat rapidly subsides, intercourse being then refused. Mr. West, Mr. Simpson's excellent veterinary surgeon, emphatically confirms these observations and adduces his very large acquaintance with analogous phenomena, personally observed, in other animals, as the mare, female ass, bitch, cat, etc., as well as in cows.

Mr. West made a statement to me which is amply corroborated by remarks of Mr. Darwin, namely, that in the rougher Welch and Highland cattle which lead harder lives, maturity or the epoch of puberty arrives much later than in Alderneys or shorthorns; but he adds that a flux of sanguineous character equally occurs in the females of these breeds at the time of the rut. I am indebted to Mr. West for information respecting a

remarkable case of "impervious vagina in a heiffer," which occurred in his practice and which illustrates the occurrence of sanguineous menstruation in the heiffer. Mr. West was called to see a heiffer supposed to be in labor and unable to calve. On examination he found the vagina to end in an impervious canal three inches from the vulva. Thinking the fetus must be dead and abortion prevented by the state of the vagina, Mr. West advised that nothing should be done, hoping the pains might subside. They continued however and the heiffer lost flesh. Four months afterwards Mr. West deter mined to cut through the obstruction. This he did, but having passed it, found the os-uteri contracted; accordingly into this he inserted a whalebone sound and dilated it a little, when a reddish-brown offensive fluid began to escape. About two quarts altogether came away but no signs of a fetus. The beast recovered. Mr. West concludes with the remark that the fluid "should have come away as a periodic discharge, but was prevented by the impervious state of the vagina which must have also rendered impregnation impossible."

Mr. West was also so good as to refer me to a similar case published by Mr. McGillivray in Vol. III of the *Veterinary Journal*, p. 443. In this case there was an impervious vagina in a heiffer which had never been put to the bull. The creature had severe bearing down pains and was thought to have obstruction in the bow els. A passage was forced into the generative canal and a dark brown offensive fluid escaped. Mr. McGillivray regarded the case as proving "the existence of a menstrual discharge in the brute females, analogous to that in the human female." He considered that the oestral products had never found vent in the uterus. These views were combated by another veterinary surgeon, Mr. Gerrard, but his arguments, though plausibly advanced, were quite inconclusive. Mr. Gerrard points out that adhesion of the vagina sometimes arises from injury done in copulation; but admitting this as a possible though rare occurrence, it does not apply in Mr. McGillivray's case. Nor is Mr. Gerrard's argument on the sero sanguineous nature of the fluid valid; for, as will be shown, the sanguineous character of the fluid diminishes as we descend in the organic scale, even in women the catamenial discharge is sometimes abundantly mucus. Mr. McGillivray replies to his opponent's strictures in the same volume (Vol. IV) and conclusively shows that his case was one of impervious vagina. He goes on to express the very decided conviction that the lower animals do certainly have an "oestral" discharge resembling the catamenia of women, though it is not so invariable, copious, or well defined as in women. He then gives instances of excessive flow in the cow and mare, and concludes by saying: "The discharge of a more or less quantity of blood-like fluid in heiffers and cows during cessation of 'heat' is so common and so well known to all herdsmen as scarcely to require any notice here."

Mr. Gerrard admitted that the oestral discharge is frequently more or less tinged with blood in the lower animals, considers that a sanguineous flow is the exception and not the rule; but it is obvious that he is opposed to authorities like Fleming and St Cyr, as well as to the observation of most competent inquirers. Probably when it is understood that in accordance with the law of evolution, the discharge in the lower females is normally less sanguineous than in women, these discrepancies between undoubtedly honest observers will disappear.

Laycock ("Nervous Diseases of Women," p. 42) says: "The menstrual period has been considered analogous to the heat of lower animals by numerous writers. Reaumaur and others, down to Cruikshank and Blundell, have described the state of the organs of generation in brute females during this period; they have been found fuller than usual of this blood, the Fallopian tubes in a state of excitement, or applied to the ovary, the latter enlarged and studded with Graefian vesicle, and a serous blood-colored fluid discharged from the vagina. There are various considerations which serve to support this opinion."

The following may be considered as the true state of the case respecting menstruation. Since the uterus itself is not an essential organ of generation, but merely superadded, and since the influence of the ovaria and testes over all the other processes and organs connected with generation, including the existence of the uterus and its development during gestation has been demonstrated, there appears not the slightest reason for withdrawing the phenomena of menstruation from their agency. It is in the ovaria then that we have to look for the causes of this process. There is every reason to believe that Graefian vesicles are coming forward at intervals during the whole period in which the reproductive organs are active; that these vessels enlarge and burst in succession, and shed the contained ovula, whether sexual connection takes place or not, and that from recent researches these changes in them take place at each menstrual flux. If we remember that during the period of heat in the lower mammals, as the ewe and the sow, and of spanning and egg laying in birds, fishes, reptiles, insects—indeed of every class of oviparous animals—these ovula become developed, and are shed, whether they be fructified or not. Recurring at the same time to previous statements, we cannot help coming to the conclusion that the period of menstruation is precisely analogous to the period of heat; that there is in fact an excited state of the ovaria at each period when the ovula are shed; and that the capability of performing this periodic function distinguishes the ovaria of the woman from the impubescent girl and virago. If at this period an ovulum be vivified by the male semen, conception takes place, and this hypothesis at once explains the doctrine that women more readily conceive at the menstrual period, maintained by Hippocrates, Galen, and their numerous copyists among the ancients, by Dr. Montgomery and others in later times, and generally believed by females themselves. When conception has taken place a new action is set up in the

ovaria, which may be considered as a permanent stimulus to the whole of the generative organs; and although the usual nisus may and does occur during pregnancy, its effects are rendered less obvious from its permanency. (Fleming ["Veterinary Obstetrics," p. 52] says: "Frank has convinced himself by post mortem examination of mares of the possibility of ova being thrown off from the ovary during pregnancy.") If on the other hand the discharged ovulum or ovula be unimpregnated the same process is repeated at the next menstrual period, and so continues until age, disease or conception interferes with the ovarian system. But we shall find that this periodic movement is not limited to the ovaria but that it is an affection of the general system in which the ovaria partake; and that it is through this that the secondary system in connection with them is influenced and all the attendant phenomena, those of menstruation excited.

Recurring to our previous statement it appears that in many animals the development of the testes and ovaria and the shedding of the ovula and spermatic fluid occur at definite seasons of the year, and for the most part in spring and autumn. The heat also of those animals in which the genitals are in continuous activity occurs at fixed periods, and these must be compared with the periodic movement of the human female. Again, the period of gestation in women is a multiple of the menstrual period and it will be useful to inquire into the relations of the periods of utero-gestation in animals generally to that of woman."

Are the lower animals influenced by a periodic nisus, weekly or monthly. This question I shall attempt to answer in the affirmative as well as my limited space will allow. It has already been remarked that the change from fetal to uterine (extra uterine?) life is a phase in development which in man occurs at the end of the tenth menstrual period of the female. This is correct as regards the general fact; but it must be added that slight labor pains occur at every menstrual period, but most particularly in the third, fifth and seventh months of gestation; a fetus of the last mentioned age being able to maintain an independent existence. The period of incubation of the egg is strictly analogous to the periods of utero-gestation in mammalia; and the same remark is applicable to that of the ova of fishes, reptiles and insects, with due limitations. For example, in insects the egg, larva and chrysalis states correspond to the whole period between conception and puberty in mammalia. Mr. Kirly remarks that winged insects, many brachipod crustacea, and the batrachiar reptiles in leaving the egg only quit their first integument, answering to the chorion or external envelop of the human fetus; they therefore still continue in the fetal state." Laycock also quotes from the *Zoonomia* of the elder Darwin (Evasmus) that, "in mares and bitches, if the venereal orgasm be disappointed of its object, it recurs at monthly periods." (p. 60).

Laycock adds many illustrations of the periodical recurrence of heat at brief intervals in the lower animals (p. 60-61); and mentions an instance of a cow, which, while in calf, was in heat every three weeks, and calved three weeks after the last time of heat. Kolbe and Buffin are quoted with reference to menstruation in monkeys, the latter asserting that the following monkeys menstruate (besides the ourang outang): The Barbary ape, the ribbed-nosed baboon, the lion tailed baboon, the pig-tailed baboon, the bare-lip monkey, the Malbrouck (simia sinica) the white eyelid, the varied, the green, and the moustache monkey."

Laycock states that the rutting of the males is somewhat analogous to the heat of the females in respect of its periodicity, and remarks that the "ring pigeon lays eggs for fourteen days after pairing, sits other fourteen days, and in fourteen more the young ones leave the nest. The goldfish completes its nest in three days; it is left unoccupied for four days, when the first egg is laid. Reviewing the whole of the preceding facts it appears a legitimate deduction that in animals changes occur in every three and a half, seven, fourteen, twenty-one, twenty eight days, or at some definite number of weeks." In most of Laycock's statements I concur.

[TO BE CONTINUED.]

QUERIES AND ANSWERS.

Wolf Teeth.

Editor Veterinary Department, MEDICAL REVIEW.—I have a three-year-old mare and a four-year-old gelding, each of which has what is commonly called wolf or blind teeth. They are teeth, one on either side of upper jaw and just below the upper molars. The head appears to be a little full in front of these teeth. I have been advised to have them knocked out by blacksmith. Will they ever affect the eye sight or damage the horse in any way?

W. S. ALLEE, M.D., Olean, Mo.

Quite a difference of opinion exists amongst veterinary writers concerning "wolf teeth" Some authors regard them as supernumerary, others consider them natural to all horses, while the larger number make no mention of them at all. The idea that they caused moon-blindness is now pretty generally dispelled the only connection which perhaps may be found between these teeth and the eyes is that which the irritation of teething might cause and in an animal predisposed either by constitution or heredity to ophthalmia, this might possibly be an exciting cause and in such cases their removal may be followed with benefit. Otherwise, the advice is to let them alone as they cause neither inconvenience nor injury to the horse. In case of removal they can be pulled out with a tooth forceps.—[EDITOR.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

XI.—THE ESSENTIALS OF ANTISEPSIS AND ASEPSIS. (CONTINUED).

PREPARATION AND STERILIZATION OF LIGATURES AND SUTURES.

It must be obvious that infection of wounds may happen through the medium of improperly prepared ligatures and sutures, or where incompletely sterilized or even non-sterilized gauzes or other bibulous or porous materials are introduced into wound areas—even though for the purpose of absorption of discharges and consequent local drainage. Suppose, for example, that infectious material has been introduced by means of a suture; we have then transplanted into the wound an absolute and positive focus of incubation, proliferation and infection. The micro-organisms find in the injured tissues, altered secretions and morbid discharges highly appropriate media for development. We have here conditions most favorable for a progressive, lasting and spreading infection.

For such purposes as ligation and suturing, silk, catgut and silkworm-gut are the materials most frequently employed. Well prepared catgut of suitable sizes may, at times, be used for both. Probably one of the best methods for effectively and conveniently sterilizing catgut is that recommended by Kocher:

Wash the commercial article in ether and then immerse it for twenty-four hours in good oil of juniper berry; it may then be transferred and kept ready for use in a 1:1000 solution of sublimate, the medium of solution being absolute alcohol. The absolute alcohol, of course, hardens the catgut, making it firm but flexible. When it is desirable to prevent a too ready absorption the article may be especially hardened, after sterilization and subsequent washing in alcohol, by immersion in a 1:20 solution of carbolic acid containing thirty grains of potassic di-chromate to the quart. An immersion of forty-eight hours duration will cause the substance to resist absorption for a week or ten days.

Silk may be boiled, as Czerny, of Heidelberg, directs, in a 1:20 carbolic acid solution for one hour, or else immersed for twenty-four hours in a solution of corrosive sublimate in alcohol (1:100) and then kept for subsequent use in absolute alcohol.

Silkworm-gut is easily threaded and moreover makes an excellent suture material. It may be prepared in the same manner as silk. A preliminary soaking, before use, in carbolic acid solution is said to render it more pliant and supple.

Ligature materials, after chemical sterilization, should be wound upon spools of glass or other easily sterilized material and preserved by immersion in antiseptic solution from which, when desired for use, they should be directly transferred to the wound. This latter procedure is allowable because the amount of adhering phenol or sublimate is small and of no importance as far as fear of toxic effects may be concerned; indeed the practice so far from being reprehensible is probably of decided advantage in that it effectually eliminates the chance of accidental infection at the time of its employment.

In the Billroth Clinic in Vienna, the silk is preserved in closed vessels in five per cent aqueous solution of carbolic acid; the silver wire in carbolic glycerin of ten per cent strength; the catgut in sublimate alcohol of one per cent strength; all are put into a two and a half per cent carbolic acid solution before use and are handed out of this. In order to make sure of avoiding any interchange, the instruments which are used in phlegmon, etc, are kept in a special wooden box by themselves and are conspicuously differentiated from the rest by means of their handles.

PREPARATION AND STERILIZATION OF SPONGES.

These articles, in many quarters, have been supplanted by pads or compresses of absorbent cotton or gauze, because of the cheapness and comparatively easier methods of disinfection of the latter. Indeed many operators of distinction have altogether abandoned the use

of marine sponges. Dr. W. W. Keen writes me thus: "I have practically abandoned marine sponges, and use sponges made of dry bichloride or sterilized gauze, rolled into balls about the ordinary size." In the clinic of Billroth in Vienna the use of sponges in laparotomy was discarded in 1887; at the present time sponges have been almost entirely supplanted, even in other operations, by sterilized gauze compresses of various sizes. Gerster also says:

"The large flat sponges so generally used in laparotomy have been abandoned by me for three years as expensive, and not as handy as small, well-sterilized compresses of plain, absorbent gauze, which, to prevent unfolding and fraying, are firmly tied with silk at one end. The surgeon is nowhere so cramped for lack of space as at his operations in the bottom of the pelvis. A sponge used for packing away intestines needs constant pressure to prevent its expansion and encroachment upon available space. A pad of gauze held down for a short while will become packed, and will retain its shape and position even if released from digital pressure."

Nevertheless for some purposes sponges, properly prepared, are peculiarly adapted and, as they are used by some surgeons yet, it may not be out of place to give some space to their consideration. Among other measures which have been suggested is boiling; such a method is foolish in the extreme, because the process of sterilization by boiling robs the sponge entirely of those very properties which render it valuable, materially impairing its absorptive powers, its softness and its elasticity.

Many operators bleach their sponges before using them, this is not essential but adds to the appearance. A good and reliable method of preparing and sterilizing sponges is as follows:

a. Free the sponge from calcareous materials by dry beating and then immerse for about fifteen minutes in dilute hydrochloric acid. Then wash in cold water until all traces of the acid have been removed.

b. After removal of calcareous matter, as directed, allow the sponges to stand a couple of days in water. This will allow proliferation or germination of spores —the fully developed microbe being much more susceptible to chemical sterilization than the spore. After such standing the sponge is more thoroughly and effectually sterilized.

c. Thoroughly knead the sponge by hand with green soap and plenty of hot water for several minutes. Rinse away completely all traces of soap.

d. Immerse in a five per cent solution of carbolic acid. An immersion of twenty-four hours, after such treatment as has been described, is said to render sponges absolutely sterile.

After squeezing the sponges until free from excess of sterilizing solution, they may be preserved in sterilized air-tight jars until needed for use. Before using they should be immersed for awhile in a five per cent solution of carbolic acid.

Sponges once used may be re-sterilized by the same process; in case of saturation with blood they should be well washed in tepid water until all traces of blood have been removed.

Sublimate should never be used for sterilization of sponges—contact renders it inert, especially in the presence of light and heat.

As a rule sponges are only used in operations requiring rapid absorption of blood or secretion and more especially in those cases where total arrest of hemorrhage is only possible by rapid completion of the operation. They are especially of service, fastened to sponge or artery forceps, in certain operations about the face, the vagina, etc. They are also of great service in the rapid cleansing and preliminary tamponade of the intestinal canal in abdominal work.

Preparation and Sterilization of the Hands.

Of equal importance for the attainment of success is sterilization of the hands of the operator, his assistants and his nurses. Kuemmel and Fuerbringer have both shown that enormous quantities of pathogenic and pyogenic organisms are constantly lodged upon the hands and especially beneath the finger nails of even the cleanest of individuals,—this is particularly true of physicians and surgeons, as well as of all others directly exposed to infectious materials. No amount of washing, or scraping, or trimming of nails can absolutely remove these germs, more especially those lodged beneath the nails. To facilitate digital examination the finger is frequently lubricated with some oleaginous substance; this collects in the space beneath the nail, so also do the various germs with which the examining finger necessarily comes in contact; they are finally crowded into and stored away in the space beneath the nail, firmly ensconced in the greasy collection and thereby effectually protected against penetration and action of antiseptic solutions. Therefore certain preliminary measures of cleaning are necessary, as in the case of the sterilization of the skin of the patient in the vicinity of the wound.

The hands, forearms and nails of operator, assistants and nurses should be thoroughly washed and scrubbed in soap and hot water with a stiff bristle brush for five or ten minutes. The nails should then be trimmed and scraped, especially in the subungual space, and re-scrubbed. Kuemmel recommends green or potash soap for this purpose; this is an excellent suggestion as to the detergent action of the soap is added the antiseptic action of the usual excess of alkali in such soaps.

For the sake of safety it is better that an operator, or his assistants, should not wear rings during an operation; they should be taken off before the hands are scrubbed and remain off until the operation is entirely completed. It would also be wise to caution nurses, as Gerster suggests, against the wearing of bangles, rings or bracelets. One thing should be thoroughly impressed upon all assistants and nurses—whenever a non-sterilized object of any kind is touchad, no matter what its

nature, it is imperative that the hands be sterilized anew.

But as to the method of sterilization. Thanks to the use of steam and boiling water we have attained absolute security in the disinfection of inanimate objects. Unfortunately, however, such absolute precision has not been attained in the sterilization of the hands, of the skin of the patient or of his tissues—nevertheless such is a necessity in the antiseptic and aseptic methods of wound treatment. We cannot hold our hands in the streaming stream, nor can we immerse them for five minutes in the boiling soda solution and certainly we cannot subject our patient to such measures. Hence for the preparation of hands and skin we are forced to the adoption of a combination of mechanical and chemical sterilization. Bacteriological examinations by Tavel and Vicquerat show that the hands are usually rendered sterile by the method suggested by Fuerbringer. But this is by no means always reliable notwithstanding the great degree of confidence which it enjoys, for if the operator has been exposed to infection (a condition in which sterilization of the hands becomes more imperative than ever), the method does not succeed in effecting sterilization. In order to test this Kocher opened a large abscess and purposely soiled himself with the discharges. In spite of thorough application of the method of Fuerbringer, colonies of staphylococci subsequently developed. Kelly at Johns Hopkins University and Welch of the same institution have both proven that the method is unreliable—and especially in those cases when its use would be most desirable. They have given a great deal of attention to this subject and have suggested a more exact and certain method of manual sterilization which was fully discussed in a previous paper. For the details of this most recent and most successful method of sterilization of the hands see the paper "Antisepsis in Obstetrics."

Irrigation.

Upon this subject of irrigation a war of words has been waged *pro* and *con*. Nevertheless it is too important to be dismissed without some adequate notice,—by some it has been damned while by others it has been canonized.

All operative work is preceded by certain essential and preliminary measures, such as the securing of a dustless atmosphere, thorough cleansing of the skin of the patient and of the hands of operator, assistants and nurses, thorough sterilization of instruments, sponges, dressings, etc. Were these preliminary measures always uniformly and ideally successful then irrigation would be unnecessary. Unfortunately this is not altogether so, but as we progress towards the attainment of that ideal state the need of irrigation becomes more and more restricted. But as long as there is a chance for a flaw, as long as there is even ground for suspicion, just so long is irrigation an absolute necessity.

It is usually impossible to secure a perfectly dustless atmosphere for operative work; therefore in order to remove infectious material, whether from air or morbid substances derived from the organism itself, irrigation is usually employed. Moreover we must not forget the chances of accidental infection by inattention, they can hardly be excluded but are to a certain extent anticipated or guarded against by irrigation. Indeed in many instances irrigation is most valuable, bridging over what would be culpable gaps in an otherwise complete and faultless procedure. Suffice it to say that in regions which can be rendered aseptic with difficulty it is an indispensable adjunct to the surgeon.

Irrigation may be either aseptic or antiseptic in nature—aseptic when simple, bland, sterilized solutions are employed; antiseptic when the irrigating fluids are vehicles of antiseptic or germicidal agents. The virtues of irrigation may therefore be ascribed to either a chemical action or the mere mechanical cleansing effect of the stream injected against or over the tissues—or may be ascribed to a combination of both. It is interesting in this connection to note the experiments of Zimmerman and Tavel. In their experiments small pieces of meat were infected with definite micro-organisms; it was subsequently found that attempts at sterilization of such infected particles were by no means always successful, even though the fragments of meat were immersed in a 0.1 per cent acid sublimate solution from one to five minutes. On the other hand, sterilization was easily effected under the same conditions when infected strips of blotting paper were used in place of the fragments of meat. If then this contact of the strong antiseptic solution was insufficient to effect sterilization we can hardly hope to secure better results from the momentary contact in the case of wound irrigation. In practical work micro-organisms are not usually found in surroundings which are ideal as far as the application of antiseptic principles is concerned. We do not find them disassociated from organic material. As Gerster says, they are not met with in the shape of thin, watery emulsions but are found imbedded in dense masses of what Lister appropriately called "lumps of dirt," in conglomerations of grease and epidermis, in powerful plugs of sticky slime, pus and blood clot. Therefore let us first emphasize the paramount antiseptic value of the homely methods employed for cleansing dirty surfaces, comprised in the term *mechanical purification;* and secondly point out how infinitely more they accomplish than any form of chemical disinfection by watery germicidal solutions *alone.* Both should be combined. Still, as Kocher points out, Zimmerman obtained quite an important difference in degree by his disinfection, since a lesser number of colonies developed and these did so more slowly and at a later time, their virulence having been weakened. Therefore Lister, considering every wound to be theoretically more or less infected, washed it with 0.2 per cent sublimate solution at the end of an operation; he has lately, however, discarded all other antiseptics in favor of carbolic acid. Many surgeons modify this process of antiseptic irrigation by final flushing of the

wound area with a 0.75 per cent sterilized salt solution in order to wash away all trace of the antiseptic.

Irrigation is now rarely employed in aseptic wounds, it is not only unnecessary but may even prove, as has been declared in some instances, actually harmful; it is therefore to be restricted to conditions or wounds which are not in a thoroughly aseptic condition, such as those in the neighborhood of the orifices of the body or in the vicinity of accidentally infected or actually suppurating areas. Gerster says: "*A notable exception to this rule is the abdominal cavity, wherein irrigation is never to be employed.* This statement seems to condemn a widely spread practice, and some courage is needed to express it unreservedly. * * * How entirely useless, nay, pernicious, the effects of flushing the peritoneum are in cases of active septic infection, as, for instance, in the presence of fetid fecal abscesses due to intestinal perforation, has been abundantly demonstrated to myself and to other surgeons here and abroad by numerous unsuccessful attempts. And there is nothing more certain than that, on account of its complex character, the peritoneal cavity cannot be completely washed clean; that germicidal solutions cannot be used in a sufficient strength to be effective, and that finally an inert or weak solution will only help to spread the elements of infection to previously unaffected areas. The substance of these assertions was essentially confirmed by experimental research on animals."

As to opening large cavities of the body, it seems that no proof has been as yet offered that successful results cannot be attained by the employment of proper precautions both before and after an operation, even though antiseptic irrigation be discarded. Indeed it may well be said, as has been done, that most operations within the peritoneal cavity afford no very rigid test of the absolute value of the aseptic or antiseptic measures therein employed. The condition of the serous membranes and cavities, especially when exposed to infection through various channels, is by no means a proper and infallable guide for other injured tissues under the same conditions, such for example as muscular or areolar tissue. The tolerance of the peritoneum is well known and seems almost incredible; therefore technical faults committed during abdominal operations are much oftener undetected and unpunished by septic developments than is the case in those similarly incurred in extra-peritoneal operations. Because of this, Kocher and many other surgeons now restrict themselves, in abdominal operations, to antiseptic precautions before and after the operation rather than during its course, and discard antiseptic irrigation trusting the care of the wound during the operation to asepsis and to the inherent resistive power of normal tissue. Numerous experiments seem to demonstrate that the serous membranes are remarkably tolerant of infectious materials or else digest them with relative facility, thereby rendering them harmless, perhaps, as has been suggested, by the assistance of serous transudation. But this remarkable tolerance, as has been shown by Walthard and Tavel, exists only so long as the endothelium remains intact. The injured tissues encountered in a traumatism are by no means in this favorable condition; therefore the tolerance of the peritoneum should never be allowed the function of a cover beneath which to hide imperfect, careless and slipshod work. In laparotomy as well as elsewhere—indeed if not more so—the employment of thorough, rigid and conscientious antisepsis and asepsis is obligatory, it is naught else than a duty. As has been said, once overstep the limit of peritoneal tolerance and the danger usually becomes irretrievable—the life of the patient usually terminating by a septic peritonitis for which there is no redress.

Drainage.

Many of the remarks made as to irrigation apply with equal force to drainage of wounds. As Gerster most tersely says: "Imperfect cleanliness, copious irrigation and abundant drainage represent the links of a chain forged by necessity. A faultless asepsis has often enabled us to do away with both irrigation and drainage."

One of our best auxiliaries in securing the rapid healing of wounds is to render development and proliferation of infectious material an impossibility—although we also must be mindful of the fact that such conditions do not and cannot obtain in perfectly aseptic wounds. It must be remembered that normal healthy human tissues, and especially those through which the blood and lymph are circulating freely and properly, constitute very poor media for micro-organic development,—indeed there can be very little doubt but that such tissues are endowed with more or less inherent germicidal power, as we have shown in a previous paper. But the stagnation and subsequent alteration of blood or serum offer excellent culture media and therefore it becomes a duty to institute, in other than aseptic wounds, such processes as will tend to prevent the accumulation of altered secretions or morbid discharges in the wound area. This we can secure in two ways; that is, either by exact coaptation of well-nourished wound margins or else, where this is not possible, by removing secretions and conducting them without the wound area. This last condition may be secured by the open method, the method of secondary suture or else by drainage direct. In the first, the open method, healing will be slow; in the second or method of secondary suture, employed and modified by Bergmann, Nussbaum, Spengler and Helferich, the wound is left open for one or two days and then closed by sutures—it is claimed to unite the advantages of the open method and that of exact coaptation; the third method is that of drainage by means of drainage tubes or gauze. These tubes are seldom allowed to remain in the wound longer than forty eight hours, except in case of grave infection.

Theoretically we may say positively that drainage is useless in a perfectly aseptic wound. If the wound is aseptic the secretions following an operation or an injury contain nothing capable of causing sepsis, they will

be absorbed with no disagreeable consequences and with no disturbance to either the wound or the general health of the patient. But in the event of exposure of large surfaces and irregular wounds a slight contamination is usually to be foreseen and expected, as well as met by proper means; these are usually afforded by proper drainage tubes allowing facile discharge of all possible elements of future decomposition and infection.

Small superficial wounds, where complete approximation of the wound surfaces can be secured, do not need drainage. But deeper wounds, such as may be adapted for either complete or partial primary union, must be drained so that secretions may not accumulate after union and compression have been instituted. In these cases drainage by tubes is probably preferable. Drainage is also indispensable in all acute, progressive, suppurative processes where an egress may thus be provided for pus, sloughing tissue and morbid discharges. Probably nothing is in every way better adapted for such purposes than the pure black gum or caoutchouc tubing cut into proper lengths and preserved in an up right position in a 1:20 carbolic acid solution.

It can be engraven upon the memory that properly prepared aseptic rubber tubes are seldom, indeed we may say never, capable of causing irritation. Any increased discharge or other untoward phenomenon is due to infection introduced within the wound by some means, usually by means of the tube itself. In aseptic wounds the function of the drainage tube is gone at the end of about twenty-four hours because oozing has usually terminated by that time; although it is more frequently kept in until the change of the first dressings in order to avoid the disturbance of wound and dressings consequent upon the removal at an earlier period.

But we repeat, in perfectly aseptic wounds drainage is unnecessary, unless discharge is excessive. Gerster goes even beyond this, he says: "Even in operations where we are not absolutely certain of the aseptic condition of our wound we can often dispense with the use of drainage tubes, and not incur any serious risk. Bergmann first demonstrated that a wound of doubtful asep ticity can yet be made to heal by primary adhesion. He passed his suture points through the edges of the wound and all its recesses down to the bottom with iododoform gauze. Over this was placed the usual outer dressing. Through the capillary action of the gauze copious oozing of serum was encouraged, which in about sixty hours lost its sanguinolent character, whereupon the packing being extracted the suture points left *in situ* were closed, and the wound was seen to heal in a man ner little differing from primary union. Undoubtedly, much of the success of this plan of packing and secondary suture is to be attributed to the iodoform, which has triumphantly withstood various attacks upon its reputation."

Still another modification of this form of drainage is now extensively employed in abdominal surgery, where, on account of much unavoidable denudation or accidental infection, copious oozing is to be expected. Mikulicz was the first one to employ the iodoform gauze packing successfully in the abdominal cavity, and his plan has met with widespread and deserved acceptance. First, it does away with the use of the drainage tube, and secondly, its contact with the peritoneum causes just enough adhesive irritation to insure after its removal rapid agglutination of the raw surfaces. Immediate closure of the wound can be practised after the extraction of the packing.

Thanks also to Schede's method of treatment under the moist blood crust we have, as it were, the choice of a middle course between the open treatment and drainage. Kocher says of it: "When the immediate coaptotion of the wound margins is impossible it utilizes the blood effused into the wound to fill the cavity. The wound is allowed to fill with blood, the edges are but partially united by sutures, and the rest is covered with impermeable tissue. Where neither primary nor secondary suture is possible this method is much preferable to the simple open wound treatment, with reference to the duration of the healing, by favoring the cicatrizing process."

But more frequently than not all of these agents and means which we have described are applied in operative work where the wound is made by the surgeon himself and most of the conditions are directly under the control of the operator; hence it is more possible to secure asepsis, to prevent an intense or prolonged infection. There are times as well when one must operate under other than these favorable circumstances, when extensive micro-organic invasion of the tissues has already occurred or else when such invasion cannot well be avoided, or when the site of the operation is also the focus of an infection which is either intense in nature or long in duration. In such cases we have to vary the treatment with the conditions to be met; more frequently when such wounds are not aseptic we can secure very good results by the use of antiseptic irrigation of the wound area, the application of moist chemically sterilized compresses or other dressings which are frequently changed unless specially contra-indicated; then the wound can be sutured after the infectious matarial has been eliminated and the line of union, in fact the whole of the wound area, dusted with a dry antiseptic powder dressing.

Mosetig von Moorhof, by the use iodoform in 1880, introduced a new form of wound treatment. Iodoform, *per se*, is a comparatively bland and inert body; but contact with decomposing organic matter effects its own decomposition, liberating free and elementary iodin by which the ptomaines and toxalbumins are fixed and incidentally further micro-organic development arrested, as De Ruyter has shown. Both of these effects are due to the presence of the liberated iodin rather than to iodoform itself. This peculiar effect is only possible in the presence of decomposition and such products as ptomaines and toxalbumins. But the latter are directly the result of vital activity on the part of bacterial organisms, any condition in which they are found must neces-

sarily be septic in nature; therefore iodoform would be practically and antiseptically inert in an aseptic wound. It is for this reason that Kocher says that iodoform has no place in the aseptic treatment of wounds. In wounds appropriate for the aseptic treatment he further says that its employment is senseless; on the contrary, the wound may be directly infected by its application. But it is the most active of all drugs for counteracting beginning and advanced decomposition and hence is to be used on wounds where decomposition must be expected from insufficient asepsis. Bergmann's mode of using the drug has been shown by the investigations of De Ruyter to be the best—namely, to pour into the wound a solution of iodoform (ten parts) in ether (twenty parts) and alcohol (eighty parts).

[TO BE CONTINUED.]

Obscure Forms of Epilepsy.

BY M. P. SEXTON, M.D., KANSAS CITY, MO.

Read at the Kansas City District Medical Society, June 7, 1894.

In the last few years more than usual attention has been paid to what is commonly termed masked or psychical epilepsy. The clinical picture of epilepsy, with which every student of medicine is familiar, has ceased to represent that disease in the more comprehensive sense in which we are now accustomed to speak of it. Among the innumerable deviations from typical epilepsy it is my purpose to notice more particularly some varieties of that form which the older writers treated under the title of epilepsia procursiva, and which is believed to embrace certain dream-like states and conditions of double consciousness of a highly interesting character, both from a scientific and a medico legal standpoint. Cases have been repeatedly observed in which a long series of automatic acts alternated with epileptic fits, took their place permanently, were supplanted by the fits, or seemed to operate in their stead from start to finish. To the medical man unfamiliar with these singular phenomena their connection with epilepsy is not always quite clear, and in cases of infraction of the law it is not always an easy matter to demonstrate to a jury that the patient, who sits before them apparently rational, is not responsible for acts committed while under the influence of his disease. But notwithstanding the skepticism on the subject, in the profession and out, these aberrant forms of epilepsy do exist, and the victims of them are entitled to the same consideration that is given those suffering from other forms of mental disease. How it is that a condition should exist so radically different from convulsive epilepsy in its manifestations and yet in its etiology and essential nature falling under the same classification is a question not easily answered. But the theory that the higher centers of the brain are suspended in the performance of their functions while the lower continue to act, is as satisfactory as any with which I am acquainted.

The masked form of epilepsy under consideration is usually characterized by a sudden loss of consciousness, as in ordinary epilepsy, but instead of the typical convulsion a new or substitute consciousness supervenes in which the patient's conduct may appear quite natural to strangers who do not critically observe him, his acts being purposive but not inspired by rational motives. This second consciousness, with its accompanying phenomena of automatism, may last a few seconds only, closely resembling an attack of petit mal, or it may continue for days or even weeks, involving the patient in a series of the most mystifying performances of which he has no recollection whatever when he awakens, as from a dreamless sleep. The procursive propensity exhibited by some of these patients impels them at times to go upon long journeys, buying railroad tickets, stopping at hotels and occasionally engaging in some simple occupation. Some four or five years ago a man showing signs of mental derangement was picked up on the streets of St. Louis and committed to the City Insane Asylum. After remaining in the asylum several days he became perfectly rational and expressed great surprise at his strange surroundings. On inquiry, the fact developed that he was a citizen of San Francisco, had disappeared from his home some weeks before his arrest in St. Louis and that he had been traveling over the country under the influence of a form of epilepsy which has been aptly termed perambulatory automatism. Somewhat more than a year ago a locomotive engineer, a member of the brotherhood and wearing the badge of the order, without any discoverable motive left his family in Kansas City, drew his wages and disappeared. After several weeks he was found in Texas unable to give an account of his movements since leaving home, but among other evidences of extensive wanderings, wearing a hat which had been purchased from a retail dealer in Philadelphia. He was suffering from aphonia, which persisted for a number of weeks. He claimed to remember but one incident of his absence—a certain ride on the engine of a freight train in Texas. In my opinion this was a case of masked epilepsy, presenting the phenomena of perambulatory automatism.

Dr. Landon Carter Gray, in his recent work on nervous diseases, reports the case of a lad of fourteen years, who would wander for days about the lower quarters of New York, often earning wages without exciting suspicion in those about him, till he would suddenly return to his normal condition and wend his way home.

April 5, 1894, I was called by Dr. V. L Todd to Kansas City, Kan., to see a man who gave the following history: Age, 32; native of Indiana. In 1884 went from his home in Indiana to the neighboring town of Nokomis where he drank beer with some friends. He remembered nothing further until he awakened in Kansas City about two weeks later minus $60 or $70 which he had when he parted from his friends in Nokomis. He had visited Kansas City a year or two previously. In January, 1893 this man, who was now a resident of Kansas City, Kan, went to Kansas City, Mo., on a

business errand and had a wordy altercation in which he became greatly excited. He lost consciousness, but returned home in a dazed condition, so evidently abnormal that his family sent for a physician. For two or three weeks prior to January 16, 1894, patient complained of pains in the head and would wander out in the cold in his night clothes. Was up two or three times and out on the porch on the night of January 15, 1894. At 8 A.M., January 16, 1894, he left home and was not heard from until March 8, when he wrote a letter from St. Louis stating that he was sick and destitute and wanted to come home. He claims he has no recollection of leaving Kansas City or of anything that happened until ten or twelve days after the disappearance he awakened in front of the *Globe Democrat* office in St. Louis and was entirely ignorant of his location till he read the name of the paper on the building. This man was treasurer of a lodge, and several hundred dollars of the lodge money disappeared with him, thus involving in the case an interesting medico-legal question. On examining this patient's skull two depressed fractures were discovered. He also gives a history of two attacks of la grippe in which there were marked psychical symptoms. Patient's father also had attacks of aimless wanderings from home. Since his return from St. Louis he has had frequent attacks in which his eyes would have an unnatural expression and his wife would have to shake him violently to restore him to his normal condition.

J. E. S, of 635 Troost Avenue, Kansas City, Mo., was referred to me in the latter part of March, 1894, by Dr. J. D. Griffith. He was 26 years old, single, and a pressman by trade. There was no evidence of an injury of any sort, no reflex irritation and no specific history. For about eighteen months this young man had been subject to almost daily attacks of epileptiform convulsions, quite variable in character and altogether atypical. He was always unconscious, but seldom hurt himself in falling and never bit his tongue or frothed at the mouth. Some attacks occurred without any convulsions. On one occasion he arose and ate his breakfast, took a walk with his brother and suddenly "come to," as he expressed it, and asked about breakfast, having no recollection of the events of the morning. At another time he walked out of the house, apparently well, and found himself at the end of the Twelfth street cable line, about two miles from home, but after going about fifty feet again became unconscious and was found by his friends near home. He had several attacks of aphonia, one of them lasting twelve hours. This feature of the case, the patient says, is very curious to him, and his manner of describing it impresses one with the fact that he is neither shamming nor hysterical. On moderate doses of the bromides and cannabis indica this young man's attacks ceased at once, but reappeared after three weeks. During the next two weeks he had six or eight rather violent attacks. The family then moved to the suburbs, at my suggestion, and he has been free from any attacks since that time, a period of four weeks. Since change of environment nearly always acts favorably for a time, I am in doubt as to the significance of his present improvement. I believe, however, that the prognosis is much better in masked epilepsy than in the ordinary form of the disease, unless, of course, a gross lesion stands in a causative relation to the disease. I also believe that in functional cases, such as the one last described seems to be, suggestion may be made to play an important role in the treatment.

Creolin in the Treatment of Leprosy.—The *China Medical Missionary Journal* for March publishes accounts of two cases of leprosy. The first patient, a young man seventeen years of age, had his arms, legs and face covered with large, prominent leprous nodes, some of which had ulcerated. The skin over and around the nodes was anesthetic, and beneath the skin innumerable smaller nodes could be felt. He was put under the influence of ether, and about fifty of the larger nodes were removed by making an incision in the skin and scraping with a Volkmann's spoon The ulcers were also scraped and all the wounds were dressed with lint saturated with a mixture of creolin and glycerin. They healed rapidly, and afterward the whole skin, wherever nodes could be felt, was rubbed every day with the same mixture. This treatment was continued for nearly three months, and the patient was dismissed with no trace of the disease, except scars and a few anesthetic patches on his arms and legs. The second patient, a man twenty eight years old, noticed that his eyebrows had begun to fall off, and applied for admission into the hospital. He showed the characteristic appearance of leprosy; the upper lip was very thick, the outer half of each eyebrow was gone, the margins of the eyelids were thick and hairless, there was slight ptosis, and there was constant lachrymation. Lepra bacilli were found in fluid taken from his face. The fingers were numb but not distorted. The mixture of creolin and glycerin was rubbed into the affected parts every day for about two months, and electricity was applied to the eyelids and to the hands. The improvement in this case, the author says, was slow, but satisfactory. The eyebrows began to grow, lachrymation ceased, and the lip was reduced to its normal size. The ptosis continued, and the eyelids were not very much improved in appearance owing to the difficulty of applying the creolin to them, but the fingers regained their sense of feeling, and altogether the patient was much improved. The author saw him about a month after he had left the hospital, and up to that time there had been no return of the disease. The author thinks that if leprosy is treated in its early stages it can at least be checked, but whether it can be eradicated remains to be proved.—New York *Medical Journal.*

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Surgical Critics.

Whilst formerly the daring and enterprising surgeon, especially if he was young, had smooth sailing, and whilst only once in a long while the modest question was raised by an outsider whether such and such an operation was really necessary, the doubting Thomases, the carpers and cavilers of surgical capital operations, especially those pertaining to the abdominal cavity, have increased in numbers to an alarming extent. Formerly such critics would content themselves with saying fools rush in where angels fear to tread. That was the end of it. Now, however, these surgical critics have become bolder and more aggressive. They have ceased talking about useless operations, substituting the epithet "criminal" instead.

The most radical and pronounced among these critics is certainly Dr. Thomas O'Reilly, of this city, who was filled with righteous indignation to such an extent that he applied to the Board of Health asking as it were for an injunction against the surgeons endowed with reckless and savage butchers' instincts. The Doctor seems to have a very exalted idea of the power of a health commissioner. If he ever had been one himself he would know that his hands and feet are tied as to the suppression of many more palpable nuisances than the indiscriminate laparotomist.

It would be perhaps an ideal state of public sanitation if the health commissioner, who, of course, would have to be a shining example of proficiency and impartiality, would be endowed with the power of inquiring in case of death from operation into the justifiability of surgical procedures. As it is, whenever a doctor notoriously has killed a patient either by an unwarranted or bungling operation the medical profession only whispers about it. For it is *bon ton* and a requisite of the code not to talk disparagingly or in a spirit of censure of the disastrous results following surgical operations. The trouble is that the average doctor feels that he himself might get into a tight place. Hence a superabundance of charitable silence.

As is generally the case in newspaper discussions about medical matters, interviews and communications to the various editors have been published by individuals who had an ax to grind. It was amusing to see what a stupendous amount of naive pharisaism lurks in the composition of some doctors. Of course, they all condemn unnecessary or fake operations in general, but particularly laparotomies. Quite a hilarious effect must have been produced by a letter written to Dr. O'Reilly commendatory of his course and participating in his indignity. The earmarks which this letter bore pointed unmistakably to a surgical enthusiast who is by all who know him considered as the prototype of that class against whom Dr. O'Reilly has tried to call in the aid of the authorities. It is the old game of crying, stop thief, when you are the thief yourself. It is the time-hallowed method of turning up the eyes in holy indignation over practices which ethics and religion condemn only to show the public that might suspect you that you are not that kind of a surgeon, but that it is the other fellows that are to be blamed.

The fact of the matter is that Dr. O'Reilly is right, that operations on the abdominal and generative organs are daily performed for which there does not exist the shadow of a justification. There is not a man in the medical profession, who is not aware of the existing evil. Everybody that has any knowledge about the extent of this crying evil of the day condemns it, but the loudest of all, the most persistent and most verbose, is he who most frequently commits these surgical crimes.

And the remedy? We doubt that there will be one in the near future. To us this lamentable state of affairs seems to be the immediate outgrowth of the recognized cancer of the *body medical*, the multiplicity of medical colleges and consequently a multiplicity of individuals who style themselves professors of surgery. Anybody that has a superficial knowledge of the mental caliber of some of these "professors" will know how it comes that the student's mind is filled with heroic notions about surgical daring, even where the daring amounts to criminality. The fact is that too many

pseudo surgeons occupy professional chairs, who have as much calling for this vocation as the mule has for the performer on the piano. The introduction of asepsis is to blame for it. Being in itself one of the greatest boons for humanity, it has placed a formidable weapon in the hands of many unscrupulous imbeciles. The euphonious appellation of "exploratory operation" covers a multitude of surgical sins and incapacities. The flippant manner, too, in which some of these worthies speak to the students about their mistakes and the insignificance of human flesh when the "science of surgery" comes into play, has a debasing influence on the juvenile mind. Formerly there were master surgeons who did not consider it beneath their dignity to serve in their youth a long and laborious apprenticeship in the principles and practice of surgery. This was in the pre antiseptic and pre-aseptic period. Nowadays the young man who has had the misfortune of absorbing and appropriating the teachings of the class of surgical fakirs, the pseudo-professors, will leave the college with the firm determination of operating on the first case of appendicitis, pus-tube or ovarian tumor that presents itself. Here, then, lies the difficulty of solving the question as to how to suppress the surgical sooner. A condensation and concentration in medical teaching brought about by the suppression of some colleges and a consequent diminution of the number of professors of surgery with a due regard, of course, of the survival of the fit, in fact, better medical teaching, and a higher plane of medical knowledge and medical ethics among the profession at large will alone succeed in squelching the professional womb and ovary extirpator and the ignorant exploratory laparotomist. But the main aid in the direction of reform is to come from our recognized leaders in surgery themselves. They are the ones that are injured most by the practices of the experimental vivisectionist. Their honest work necessarily, though innocently, suffers from the stigma which is impressed upon surgery by the licensed fakirs.

Spread of Infectious Diseases Through Railway Travel.

Petri has published through the official channel of the Imperial Health Office at Berlin the results of some experiments concerning the spread of infectious diseases, especially tuberculosis, through travel by rail and the health regulations which may be required (*Hyg. Rundsch; Diet. and Hyg. Gaz*). After the methods of Cornet, the author collected the dust from the walls, furniture and coverings of forty-five compartments belonging to twenty-one railway coaches. This dust was inoculated into one hundred and seventeen experimental animals. Forty-five of the guinea pigs died of various infectious diseases in the first few days after the inoculation, namely, twenty-seven of peritonitis, fourteen of malignant edema, three of abscesses, and one of tetanus. Three animals became tuberculous, which received dust from two sleeping coaches.

Expectoration upon the floors in thirty four compartments was injected into ninety one animals, of which twenty-eight quickly died and from their bodies staphylococci, streptococci, the bacillus pseudotuberculosis and the bacillus of mouse septicemia were recovered. The remaining sixty-three animals were watched for six weeks and were then killed. Of these, three animals were found suffering with unmistakable tuberculosis starting from the point of inoculation; the others were found to be healthy.

As to the relative number of bacteria in different situations and classes, the author's examination of separate compartments resulted as follows: Most bacteria were found in compartments of the fourth class (upon 100 sq. c. m. of the floor, 12,624; upon 100 sq. c. m. of wall, 161 to 2,646; upon 100 sq. c. m. of covering, 10), fewer in those of the third class (respectively 5,481; 1,549; 11); least in those of the first and second class, between which two in fact there was no appreciable difference (floor 4,347; carpet over the wood 29; coverings 0 to 1).

Experiments concerning disinfection of compartments of the coaches demonstrated that there is no effective means of disinfection exclusive of steam. Furthermore, the kind of complete disinfection that is performed by the practiced employes of the municipal (Berlin) disinfection station does not produce a decided lessening of the number of bacteria.

Various experiments at modes of cleaning (soap-lye in different concentration 1–10 per cent; warm water or douching with the spray followed or not with dry rubbing with sterilized towels or chamois) have shown that compartments of the first and second class are very much more difficult to free from their bacteria than are those of the third and fourth class. For the latter, even when very dirty, one per cent soap solution followed by douching and subsequent dry rubbing will free them of most of their bacteria. In the latter compartments, a fresh covering of oil paint enables us to attain a complete sterility of the surfaces.

By simply washing off the linoleum of the second class compartments, the bacteria are reduced to one-tenth their number.

MEDICAL SOCIETIES

American Surgical Association.

Annual meeting, held at Washington, May 29, 30, 31 and June 1, 1894. The President, Dr. J. Ewing Mears, of Philadelphia, in the Chair.

We are indebted to the New York *Medical Journal* for this report.

THE SURGICAL TREATMENT OF EMPYEMA

was the title of a paper by Dr. John Ashurst, Jr., of

Philadelphia. The following summary was presented:

1. No operation is justifiable unless the presence of pus is certain; unless thorough treatment by medicinal agents, blisters, etc., has failed; or unless the symptoms, dyspnea, etc., are so urgent as to demand immediate relief.

2. The first operation should consist of simple aspiration, with antiseptic precautions.

3. When the fluid has partially reaccumulated, as it almost certainly will do, if purulent, incision and drainage should be practiced.

4. Drainage is best effected by making two openings, one at the lowest point, and carrying a large drainage-tube through the cavity from one opening to the other.

5. Drainage should be supplemented by washing out the cavity with mild antiseptic fluids; when the lung has expanded and the discharge has nearly ceased, the tube should be shortened, the upper opening being allowed to heal, and the tube then being gradually withdrawn through the lower opening.

6. When the lung is so bound down by adhesions that it can not expand, resection of two or more ribs should be practiced (Estlander's operation, so called) in order to allow collapse of the chest-wall and to promote healing by bringing the costal and visceral layers of the pleura in contact.

7. The more extensive operations of Schede and Tillmans, while probably justifiable in exceptional cases, are not to be recommended for general employment.

Dr. Charles B. Nancrede, of Ann Arbor, did not see the advisability, in cases where pus was shown to be present by aspiration, of limiting the treatment to this operation. It was held that in a few cases this would be followed by cure, but he had never seen such a case. Where pus was present, he preferred to provide for its permanent evacuation immediately. He called attention to the danger of the drainage-tube becoming occluded by the pressure of the ribs, and he believed that in empyema of long standing some form of excision of the ribs should be employed. In irrigation, if the pus was not too much contaminated, sterilized water was sufficient, but, if necessary, an efficient antiseptic solution should be used, and, if there was danger of absorption, the chest could afterward be flushed with sterilized water. If provision was made for the free escape of pus, he saw no necessity for the removal of large segments of ribs.

Dr. T. F. Prewitt, of St. Louis, thought that the rule that no operation was justifiable unless the presence of pus was certain needed modification. As a rule, we could determine only that fluid was present, and could not be sure that it was pus. He thought it advisable to aspirate, even when serous fluid was present. If thorough antisepsis was maintained, this could do no harm. He had never seen it result in the formation of pus, and this method greatly shortened the duration of the disease. In empyema in children he had seen several recoveries follow aspiration, but none in adults. In children the pus did not seem to possess that thick, clotting character so common in adults, which required a free opening. In empyema in adults he invariably resected a rib, sometimes two ribs. Attention was called to the great necessity of caution in the administration of anesthetics in cases of this affection. As to washing out the cavity, he always did that, using a weak solution of bichloride of mercury.

Dr De Forest Willard, of Philadelphia, thought that the whole question was one of thorough drainage of an abscess cavity. Whether or not the ribs should be excised was to be determined by the question of securing free drainage. In children the ribs were so close together that removal of a portion was usually required. In the early treatment he favored the use of a clean aspirator rather than waiting for Nature to cause the absorption of a large quantity of fluid. Such an operation did no harm and saved several weeks' time. He believed that washing as a routine measure did more harm than good. If the pus was decomposing it indicated that freer drainage was needed. If strong antiseptic solutions were employed, there was danger of renewed inflammation.

Dr. John E. Owens, of Chicago, called attention to the necessity, when evacuating pus from the chest or washing out the pleural cavity, of changing the position of the patient during the process in order that all the pus might be removed.

Dr. Christian Fenger, of Chicago, considered that there were certain cases in which Schede's operation was required. It was appropriate after milder measures, such as incision, drainage, and Estlander's operation. He reported a successful cure where this operation had been performed after other measures had been resorted to during seven years.

Dr. Roswell Park, of Buffalo, thought that the treatment of empyema should be based upon the same principles as were applicable to other abscesses. In acute cases, where we had to deal with streptococcus and staphylococcus forms of suppuration, it might be sufficient in a few instances to simply aspirate. A large proportion of cases of empyema, however, were essentially cold abscesses—tubercular abscesses. In these cases free incision, free drainage, and excision of a rib were required. In certain cases he had resorted to scraping with the sharp spoon, and in some had cauterized the diseased surface with a 50 per cent solution of chloride of zinc. He reported several cases where death would have occurred had it not been for some such radical operation.

Dr W. H. Carmalt, of New Haven, asked how far it was justifiable to go in the way of resection of ribs in these cases. He reported a recent case in which he had removed portions of five ribs, the longest piece excised being four inches and a half long. In these cases it was necessary to remove enough of the chest-wall to permit of obliteration of the cavity. He had also used the sharp spoon in order to secure a fresh surface.

Dr. M. H. Richardson, of Boston, said that the questions that arose in the treatment of empyema were

different from those in ordinary abscess, for in the former condition there was an abscess with rig'd walls. With regard to drainage, he had used double tubes provided with a valve, but considered them inapplicable and apt to cause increased trouble, for when air or pus was forced out through the tubes by coughing, a vacuum was established and the valve was held against the chest-wall, preventing drainage. He believed that Estlander's operation was applicable only to certain forms of cavity, and that there were certain cases where the cavity involved a large portion of the thorax, in which Schede's operation was the one applicable after the failure of Estlander's operation.

Dr. Stephen F. Weeks, of Portland, Me., thought that Dr. Ashhurst's rule to aspirate, especially in children, was a good one; sometimes that would result in a cure. The tuberculous cavity was to be treated differently from the cavity where this condition did not exist. Thorough drainage was sufficient in many cases. He called special attention to drainage by packing the cavity with sterilized gauze. In twenty-four hours he removed the gauze and washed out the cavity.

Dr. L. McLane Tiffany, of Baltimore, considered that the treatment of acute empyema was of more importance than that of the chronic form, as it was the more common. The most important points bearing upon treatment and prognosis were the character of the pus and its bacterial cause. The reason that the child's empyema often yielded to aspiration was that in many of these cases the pus was simply a pure culture of the pneumonococcus. In the adult we rarely saw the pneumonococcus form, but there was a mixed infection. If the empyema was of the amebic form, the patient would die. If empyema was due to the streptococcus, the odor was offensive and the cavity needed to be washed out carefully. If empyema was due to staphylococcus, washing out was not required. Where there was time, he preferred to withdraw some of the fluid with the hypodermic syringe and have it submitted to bacteriological examination. While he used ether in general work, in these cases he preferred the use of a few whiffs of chloroform, which appeared in these cases to have a peculiarly happy effect. Only a very small quantity was employed. The employment of respiratory gymnastics was of much benefit in favoring the expansion of the contracted lung.

Dr James McFadden Gaston, of Atlanta, referred to the natural tendency of the empyemic cavity to open spontaneously in the anterior part of the chest. He reported two cases in which this spontaneous opening had occurred and been followed by recovery.

Amputation of the Entire Upper Extremity.

Under this title Dr. W. W. Keen, of Philadelphia, presented a paper in which were considered first those amputations which allowed of simple disarticulations at the shoulder joint itself; those in which the axilla was invaded, yet only to such an extent as to allow of its being thoroughly cleaned out, followed by amputations at the shoulder; and those in which removal of the entire upper extremity, including the scapula and clavicle, was required. In simple amputation at the shoulder joint the control of hemorrhage was the key to the situation. The methods for the prevention of hemorrhage were:

1. Those applicable to the subclavian vessels.

2. Those applicable to the axillary. Most text books recommended compression of the subclavian by the thumb or a well-padded key. Dr. Allis had modified this method by substituting a stick eighteen inches in length with a pad of sterilized gauze at its extremity. This obviated the danger of slipping and could be applied without fatigue on the part of the operator. The author had suggested compression by means of a solid pad held in position by an Esmarch bandage, but on trial in the case of a child this had proven unsatisfactory.

A third plan consists in ligation of the subclavian artery. This was objectionable on account of the prolongation of the operation, also on account of the necessity of resecting the clavicle in order to ligate the vein, for if the vein was not ligated there was danger of the entrance of air.

Axillary Methods.—1. Those in use prior to the introduction of Esmarch's tubing.

2. Different methods of using Esmarch's tubing. Under the first head there were:

a. Compression of the inferior flap by the fingers, which seized the vessels before they were cut.

b. Harvey's method by compression of the vessels by means of a padded ruler thrust into the axilla.

c. Ligation or seizure of the vessels with hemostatic forceps before they were cut.

d. Gross' compressor; but practically this was never used.

e. Furneaux Jordan's method by making a surgical amputation at the surgical neck, securing the vessels as in hip-joint amputations, the blood-vessels having been compressed by an Esmarch band or other means followed by disarticulation of the upper end of the humerus.

Under the second head: *a.* After making the antero-external flap, a stout pin was passed through the postero internal flap between the vessels and the bone, and elastic tubing wound over the end of the pin. In this method there was danger of the vessels retracting above the constricting band.

b Esmarch's method, in which an elastic tube was placed in the axilla and drawn tight over the shoulder, where it was grasped by the hand of an assistant. This was open to the danger of slipping of the bandage after disarticulation of the bone.

c. Morre's method, in which the tubing was applied as in the Esmarch method, but was held in place by a bandage passing around the chest and under the tubing in front and behind.

d. Wyeth's method by pins and elastic tubing. In this method the operation is performed as follows: The

of marine sponges. Dr. W. W. Keen writes me thus: "I have practically abandoned marine sponges, and use sponges made of dry bichloride or sterilized gauze, rolled into balls about the ordinary size." In the clinic of Billroth in Vienna the use of sponges in laparotomy was discarded in 1887; at the present time sponges have been almost entirely supplanted, even in other operations, by sterilized gauze compresses of various sizes. Gerster also says:

"The large flat sponges so generally used in laparotomy have been abandoned by me for three years as expensive, and not as handy as small, well-sterilized compresses of plain, absorbent gauze, which, to prevent unfolding and fraying, are firmly tied with silk at one end. The surgeon is nowhere so cramped for lack of space as at his operations in the bottom of the pelvis. A sponge used for packing away intestines needs constant pressure to prevent its expansion and encroachment upon available space. A pad of gauze held down for a short while will become packed, and will retain its shape and position even if released from digital pressure."

Nevertheless for some purposes sponges, properly prepared, are peculiarly adapted and, as they are used by some surgeons yet, it may not be out of place to give some space to their consideration. Among other measures which have been suggested is boiling; such a method is foolish in the extreme, because the process of sterilization by boiling robs the sponge entirely of those very properties which render it valuable, materially impairing its absorptive powers, its softness and its elasticity.

Many operators bleach their sponges before using them, this is not essential but adds to the appearance. A good and reliable method of preparing and sterilizing sponges is as follows:

a. Free the sponge from calcareous materials by dry beating and then immerse for about fifteen minutes in dilute hydrochloric acid. Then wash in cold water until all traces of the acid have been removed.

b. After removal of calcareous matter, as directed, allow the sponges to stand a couple of days in water. This will allow proliferation or germination of spores —the fully developed microbe being much more susceptible to chemical sterilization than the spore. After such standing the sponge is more thoroughly and effectually sterilized.

c. Thoroughly knead the sponge by hand with green soap and plenty of hot water for several minutes. Rinse away completely all traces of soap.

d. Immerse in a five per cent solution of carbolic acid. An immersion of twenty-four hours, after such treatment as has been described, is said to render sponges absolutely sterile.

After squeezing the sponges until free from excess of sterilizing solution, they may be preserved in sterilized air-tight jars until needed for use. Before using they should be immersed for awhile in a five per cent solution of carbolic acid.

Sponges once used may be re-sterilized by the same process; in case of saturation with blood they should be well washed in tepid water until all traces of blood have been removed.

Sublimate should never be used for sterilization of sponges—contact renders it inert, especially in the presence of light and heat.

As a rule sponges are only used in operations requiring rapid absorption of blood or secretion and more especially in those cases where total arrest of hemorrhage is only possible by rapid completion of the operation. They are especially of service, fastened to sponge or artery forceps, in certain operations about the face, the vagina, etc. They are also of great service in the rapid cleansing and preliminary tamponade of the intestinal canal in abdominal work.

Preparation and Sterilization of the Hands.

Of equal importance for the attainment of success is sterilization of the hands of the operator, his assistants and his nurses. Kuemmel and Fuerbringer have both shown that enormous quantities of pathogenic and pyogenic organisms are constantly lodged upon the hands and especially beneath the finger nails of even the cleanest of individuals,—this is particularly true of physicians and surgeons, as well as of all others directly exposed to infectious materials. No amount of washing, or scraping, or trimming of nails can absolutely remove these germs, more especially those lodged beneath the nails. To facilitate digital examination the finger is frequently lubricated with some oleaginous substance; this collects in the space beneath the nail, so also do the various germs with which the examining finger necessarily comes in contact; they are finally crowded into and stored away in the space beneath the nail, firmly ensconced in the greasy collection and thereby effectually protected against penetration and action of antiseptic solutions. Therefore certain preliminary measures of cleaning are necessary, as in the case of the sterilization of the skin of the patient in the vicinity of the wound.

The hands, forearms and nails of operator, assistants and nurses should be thoroughly washed and scrubbed in soap and hot water with a stiff bristle brush for five or ten minutes. The nails should then be trimmed and scraped, especially in the subungual space, and re-scrubbed. Kuemmel recommends green or potash soap for this purpose; this is an excellent suggestion as to the detergent action of the soap is added the antiseptic action of the usual excess of alkali in such soaps.

For the sake of safety it is better that an operator, or his assistants, should not wear rings during an operation; they should be taken off before the hands are scrubbed and remain off until the operation is entirely completed. It would also be wise to caution nurses, as Gerster suggests, against the wearing of bangles, rings or bracelets. One thing should be thoroughly impressed upon all assistants and nurses—whenever a non-sterilized object of any kind is touchad, no matter what its

nature, it is imperative that the hands be sterilized anew.

But as to the method of sterilization. Thanks to the use of steam and boiling water we have attained absolute security in the disinfection of inanimate objects. Unfortunately, however, such absolute precision has not been attained in the sterilization of the hands, of the skin of the patient or of his tissues—nevertheless such is a necessity in the antiseptic and aseptic methods of wound treatment. We cannot hold our hands in the streaming stream, nor can we immerse them for five minutes in the boiling soda solution and certainly we cannot subject our patient to such measures. Hence for the preparation of hands and skin we are forced to the adoption of a combination of mechanical and chemical sterilization. Bacteriological examinations by Tavel and Vicquerat show that the hands are usually rendered sterile by the method suggested by Fuerbringer. But this is by no means always reliable notwithstanding the great degree of confidence which it enjoys, for if the operator has been exposed to infection (a condition in which sterilization of the hands becomes more imperative than ever), the method does not succeed in effecting sterilization. In order to test this Kocher opened a large abscess and purposely soiled himself with the discharges. In spite of thorough application of the method of Fuerbringer, colonies of staphylococci subsequently developed. Kelly at Johns Hopkins University and Welch of the same institution have both proven that the method is unreliable—and especially in those cases when its use would be most desirable. They have given a great deal of attention to this subject and have suggested a more exact and certain method of manual sterilization which was fully discussed in a previous paper. For the details of this most recent and most successful method of sterilization of the hands see the paper "Antisepsis in Obstetrics."

Irrigation.

Upon this subject of irrigation a war of words has been waged *pro* and *con*. Nevertheless it is too important to be dismissed without some adequate notice,—by some it has been damned while by others it has been canonized.

All operative work is preceded by certain essential and preliminary measures, such as the securing of a dustless atmosphere, thorough cleansing of the skin of the patient and of the hands of operator, assistants and nurses, thorough sterilization of instruments, sponges, dressings, etc. Were these preliminary measures always uniformly and ideally successful then irrigation would be unnecessary. Unfortunately this is not altogether so, but as we progress towards the attainment of that ideal state the need of irrigation becomes more and more restricted. But as long as there is a chance for a flaw, as long as there is even ground for suspicion, just so long is irrigation an absolute necessity.

It is usually impossible to secure a perfectly dustless atmosphere for operative work; therefore in order to remove infectious material, whether from air or morbid substances derived from the organism itself, irrigation is usually employed. Moreover we must not forget the chances of accidental infection by inattention, they can hardly be excluded but are to a certain extent anticipated or guarded against by irrigation. Indeed in many instances irrigation is most valuable, bridging over what would be culpable gaps in an otherwise complete and faultless procedure. Suffice it to say that in regions which can be rendered aseptic with difficulty it is an indispensable adjunct to the surgeon.

Irrigation may be either aseptic or antiseptic in nature—aseptic when simple, bland, sterilized solutions are employed; antiseptic when the irrigating fluids are vehicles of antiseptic or germicidal agents. The virtues of irrigation may therefore be ascribed to either a chemical action or the mere mechanical cleansing effect of the stream injected against or over the tissues—or may be ascribed to a combination of both. It is interesting in this connection to note the experiments of Zimmerman and Tavel. In their experiments small pieces of meat were infected with definite micro-organisms; it was subsequently found that attempts at sterilization of such infected particles were by no means always successful, even though the fragments of meat were immersed in a 0.1 per cent acid sublimate solution from one to five minutes. On the other hand, sterilization was easily effected under the same conditions when infected strips of blotting paper were used in place of the fragments of meat. If then this contact of the strong antiseptic solution was insufficient to effect sterilization we can hardly hope to secure better results from the momentary contact in the case of wound irrigation. In practical work micro-organisms are not usually found in surroundings which are ideal as far as the application of antiseptic principles is concerned. We do not find them disassociated from organic material. As Gerster says, they are not met with in the shape of thin, watery emulsions but are found imbedded in dense masses of what Lister appropriately called "lumps of dirt," in conglomerations of grease and epidermis, in powerful plugs of sticky slime, pus and blood clot. Therefore let us first emphasize the paramount antiseptic value of the homely methods employed for cleansing dirty surfaces, comprised in the term *mechanical purification;* and secondly point out how infinitely more they accomplish than any form of chemical disinfection by watery germicidal solutions *alone.* Both should be combined. Still, as Kocher points out, Zimmerman obtained quite an important difference in degree by his disinfection, since a lesser number of colonies developed and these did so more slowly and at a later time, their virulence having been weakened. Therefore Lister, considering every wound to be theoretically more or less infected, washed it with 0.2 per cent sublimate solution at the end of an operation; he has lately, however, discarded all other antiseptics in favor of carbolic acid. Many surgeons modify this process of antiseptic irrigation by final flushing of the

wound area with a 0.75 per cent sterilized salt solution in order to wash away all trace of the antiseptic.

Irrigation is now rarely employed in aseptic wounds, it is not only unnecessary but may even prove, as has been declared in some instances, actually harmful; it is therefore to be restricted to conditions or wounds which are not in a thoroughly aseptic condition, such as those in the neighborhood of the orifices of the body or in the vicinity of accidentally infected or actually suppurating areas. Gerster says: "*A notable exception to this rule is the abdominal cavity, wherein irrigation is never to be employed.* This statement seems to condemn a widely spread practice, and some courage is needed to express it unreservedly. * * * How entirely useless, nay, pernicious, the effects of flushing the peritoneum are in cases of active septic infection, as, for instance, in the presence of fetid fecal abscesses due to intestinal perforation, has been abundantly demonstrated to myself and to other surgeons here and abroad by numerous unsuccessful attempts. And there is nothing more certain than that, on account of its complex character, the peritoneal cavity cannot be completely washed clean; that germicidal solutions cannot be used in a sufficient strength to be effective, and that finally an inert or weak solution will only help to spread the elements of infection to previously unaffected areas. The substance of these assertions was essentially confirmed by experimental research on animals."

As to opening large cavities of the body, it seems that no proof has been as yet offered that successful results cannot be attained by the employment of proper precautions both before and after an operation, even though antiseptic irrigation be discarded. Indeed it may well be said, as has been done, that most operations within the peritoneal cavity afford no very rigid test of the absolute value of the aseptic or antiseptic measures therein employed. The condition of the serous membranes and cavities, especially when exposed to infection through various channels, is by no means a proper and infallable guide for other injured tissues under the same conditions, such for example as muscular or areolar tissue. The tolerance of the peritoneum is well known and seems almost incredible; therefore technical faults committed during abdominal operations are much oftener undetected and unpunished by septic developments than is the case in those similarly incurred in extra-peritoneal operations. Because of this, Kocher and many other surgeons now restrict themselves, in abdominal operations, to antiseptic precautions before and after the operation rather than during its course, and discard antiseptic irrigation trusting the care of the wound during the operation to asepsis and to the inherent resistive power of normal tissue. Numerous experiments seem to demonstrate that the serous membranes are remarkably tolerant of infectious materials or else digest them with relative facility, thereby rendering them harmless, perhaps, as has been suggested, by the assistance of serous transudation. But this remarkable tolerance, as has been shown by Walthard and Tavel, exists only so long as the endothelium remains intact. The injured tissues encountered in a traumatism are by no means in this favorable condition; therefore the tolerance of the peritoneum should never be allowed the function of a cover beneath which to hide imperfect, careless and slipshod work. In laparotomy as well as elsewhere—indeed if not more so—the employment of thorough, rigid and conscientious antisepsis and asepsis is obligatory, it is naught else than a duty. As has been said, once overstep the limit of peritoneal tolerance and the danger usually becomes irretrievable—the life of the patient usually terminating by a septic peritonitis for which there is no redress.

Drainage.

Many of the remarks made as to irrigation apply with equal force to drainage of wounds. As Gerster most tersely says: "Imperfect cleanliness, copious irrigation and abundant drainage represent the links of a chain forged by necessity. A faultless asepsis has often enabled us to do away with both irrigation and drainage."

One of our best auxiliaries in securing the rapid healing of wounds is to render development and proliferation of infectious material an impossibility—although we also must be mindful of the fact that such conditions do not and cannot obtain in perfectly aseptic wounds. It must be remembered that normal healthy human tissues, and especially those through which the blood and lymph are circulating freely and properly, constitute very poor media for micro organic development,—indeed there can be very little doubt but that such tissues are endowed with more or less inherent germicidal power, as we have shown in a previous paper. But the stagnation and subsequent alteration of blood or serum offer excellent culture media and therefore it becomes a duty to institute, in other than aseptic wounds, such processes as will tend to prevent the accumulation of altered secretions or morbid discharges in the wound area. This we can secure in two ways; that is, either by exact coaptation of well-nourished wound margins or else, where this is not possible, by removing secretions and conducting them without the wound area. This last condition may be secured by the open method, the method of secondary suture or else by drainage direct. In the first, the open method, healing will be slow; in the second or method of secondary suture, employed and modified by Bergmann, Nussbaum, Spengler and Helferich, the wound is left open for one or two days and then closed by sutures—it is claimed to unite the advantages of the open method and that of exact coaptation; the third method is that of drainage by means of drainage tubes or gauze. These tubes are seldom allowed to remain in the wound longer than forty eight hours, except in case of grave infection.

Theoretically we may say positively that drainage is useless in a perfectly aseptic wound. If the wound is aseptic the secretions following an operation or an injury contain nothing capable of causing sepsis, they will

be absorbed with no disagreeable consequences and with no disturbance to either the wound or the general health of the patient. But in the event of exposure of large surfaces and irregular wounds a slight contamination is usually to be foreseen and expected, as well as met by proper means; these are usually afforded by proper drainage tubes allowing facile discharge of all possible elements of future decomposition and infection.

Small superficial wounds, where complete approximation of the wound surfaces can be secured, do not need drainage. But deeper wounds, such as may be adapted for either complete or partial primary union, must be drained so that secretions may not accumulate after union and compression have been instituted. In these cases drainage by tubes is probably preferable. Drainage is also indispensable in all acute, progressive, suppurative processes where an egress may thus be provided for pus, sloughing tissue and morbid discharges. Probably nothing is in every way better adapted for such purposes than the pure black gum or caoutchouc tubing cut into proper lengths and preserved in an up right position in a 1:20 carbolic acid solution.

It can be engraven upon the memory that properly prepared aseptic rubber tubes are seldom, indeed we may say never, capable of causing irritation. Any increased discharge or other untoward phenomenon is due to infection introduced within the wound by some means, usually by means of the tube itself. In aseptic wounds the function of the drainage tube is gone at the end of about twenty-four hours because oozing has usually terminated by that time; although it is more frequently kept in until the change of the first dressings in order to avoid the disturbance of wound and dressings consequent upon the removal at an earlier period.

But we repeat, in perfectly aseptic wounds drainage is unnecessary, unless discharge is excessive. Gerster goes even beyond this, he says: "Even in operations where we are not absolutely certain of the aseptic condition of our wound we can often dispense with the use of drainage tubes, and not incur any serious risk. Bergmann first demonstrated that a wound of doubtful asepticity can yet be made to heal by primary adhesion. He passed his suture points through the edges of the wound and all its recesses down to the bottom with iododoform gauze. Over this was placed the usual outer dressing. Through the capillary action of the gauze copious oozing of serum was encouraged, which in about sixty hours lost its sanguinolent character, whereupon the packing being extracted the suture points left *in situ* were closed, and the wound was seen to heal in a manner little differing from primary union. Undoubtedly, much of the success of this plan of packing and secondary suture is to be attributed to the iodoform, which has triumphantly withstood various attacks upon its reputation."

Still another modification of this form of drainage is now extensively employed in abdominal surgery, where, on account of much unavoidable denudation or accidental infection, copious oozing is to be expected. Mikulicz was the first one to employ the iodoform gauze packing successfully in the abdominal cavity, and his plan has met with widespread and deserved acceptance. First, it does away with the use of the drainage tube, and secondly, its contact with the peritoneum causes just enough adhesive irritation to insure after its removal rapid agglutination of the raw surfaces. Immediate closure of the wound can be practised after the extraction of the packing.

Thanks also to Schede's method of treatment under the moist blood crust we have, as it were, the choice of a middle course between the open treatment and drainage. Kocher says of it: "When the immediate coaptotion of the wound margins is impossible it utilizes the blood effused into the wound to fill the cavity. The wound is allowed to fill with blood, the edges are but partially united by sutures, and the rest is covered with impermeable tissue. Where neither primary nor secondary suture is possible this method is much preferable to the simple open wound treatment, with reference to the duration of the healing, by favoring the cicatrizing process."

But more frequently than not all of these agents and means which we have described are applied in operative work where the wound is made by the surgeon himself and most of the conditions are directly under the control of the operator; hence it is more possible to secure asepsis, to prevent an intense or prolonged infection. There are times as well when one must operate under other than these favorable circumstances, when extensive micro-organic invasion of the tissues has already occurred or else when such invasion cannot well be avoided, or when the site of the operation is also the focus of an infection which is either intense in nature or long in duration. In such cases we have to vary the treatment with the conditions to be met; more frequently when such wounds are not aseptic we can secure very good results by the use of antiseptic irrigation of the wound area, the application of moist chemically sterilized compresses or other dressings which are frequently changed unless specially contra-indicated; then the wound can be sutured after the infectious matarial has been eliminated and the line of union, in fact the whole of the wound area, dusted with a dry antiseptic powder dressing.

Mosetig von Moorhof, by the use iodoform in 1880, introduced a new form of wound treatment. Iodoform, *per se*, is a comparatively bland and inert body; but contact with decomposing organic matter effects its own decomposition, liberating free and elementary iodin by which the ptomaines and toxalbumins are fixed and incidentally further micro-organic development arrested, as De Ruyter has shown. Both of these effects are due to the presence of the liberated iodin rather than to iodoform itself. This peculiar effect is only possible in the presence of decomposition and such products as ptomaines and toxalbumins. But the latter are directly the result of vital activity on the part of bacterial organisms, any condition in which they are found must neces-

sarily be septic in nature; therefore iodoform would be practically and antiseptically inert in an aseptic wound. It is for this reason that Kocher says that iodoform has no place in the aseptic treatment of wounds. In wounds appropriate for the aseptic treatment he further says that its employment is senseless; on the contrary, the wound may be directly infected by its application. But it is the most active of all drugs for counteracting beginning and advanced decomposition and hence is to be used on wounds where decomposition must be expected from insufficient asepsis. Bergmann's mode of using the drug has been shown by the investigations of De Ruyter to be the best—namely, to pour into the wound a solution of iodoform (ten parts) in ether (twenty parts) and alcohol (eighty parts).

[TO BE CONTINUED.]

Obscure Forms of Epilepsy.

BY M. P. SEXTON, M.D., KANSAS CITY, MO.

Read at the Kansas City District Medical Society, June 7, 1894.

In the last few years more than usual attention has been paid to what is commonly termed masked or psychical epilepsy. The clinical picture of epilepsy, with which every student of medicine is familiar, has ceased to represent that disease in the more comprehensive sense in which we are now accustomed to speak of it. Among the innumerable deviations from typical epilepsy it is my purpose to notice more particularly some varieties of that form which the older writers treated under the title of epilepsia procursiva, and which is believed to embrace certain dream-like states and conditions of double consciousness of a highly interesting character, both from a scientific and a medico legal standpoint. Cases have been repeatedly observed in which a long series of automatic acts alternated with epileptic fits, took their place permanently, were supplanted by the fits, or seemed to operate in their stead from start to finish. To the medical man unfamiliar with these singular phenomena their connection with epilepsy is not always quite clear, and in cases of infraction of the law it is not always an easy matter to demonstrate to a jury that the patient, who sits before them apparently rational, is not responsible for acts committed while under the influence of his disease. But notwithstanding the skepticism on the subject, in the profession and out, these aberrant forms of epilepsy do exist, and the victims of them are entitled to the same consideration that is given those suffering from other forms of mental disease. How it is that a condition should exist so radically different from convulsive epilepsy in its manifestations and yet in its etiology and essential nature falling under the same classification is a question not easily answered. But the theory that the higher centers of the brain are suspended in the performance of their functions while the lower continue to act, is as satisfactory as any with which I am acquainted.

The masked form of epilepsy under consideration is usually characterized by a sudden loss of consciousness, as in ordinary epilepsy, but instead of the typical convulsion a new or substitute consciousness supervenes in which the patient's conduct may appear quite natural to strangers who do not critically observe him, his acts being purposive but not inspired by rational motives. This second consciousness, with its accompanying phenomena of automatism, may last a few seconds only, closely resembling an attack of petit mal, or it may continue for days or even weeks, involving the patient in a series of the most mystifying performances of which he has no recollection whatever when he awakens, as from a dreamless sleep. The procursive propensity exhibited by some of these patients impels them at times to go upon long journeys, buying railroad tickets, stopping at hotels and occasionally engaging in some simple occupation. Some four or five years ago a man showing signs of mental derangement was picked up on the streets of St. Louis and committed to the City Insane Asylum. After remaining in the asylum several days he became perfectly rational and expressed great surprise at his strange surroundings. On inquiry, the fact developed that he was a citizen of San Francisco, had disappeared from his home some weeks before his arrest in St. Louis and that he had been traveling over the country under the influence of a form of epilepsy which has been aptly termed perambulatory automatism. Somewhat more than a year ago a locomotive engineer, a member of the brotherhood and wearing the badge of the order, without any discoverable motive left his family in Kansas City, drew his wages and disappeared. After several weeks he was found in Texas unable to give an account of his movements since leaving home, but among other evidences of extensive wanderings, wearing a hat which had been purchased from a retail dealer in Philadelphia. He was suffering from aphonia, which persisted for a number of weeks. He claimed to remember but one incident of his absence—a certain ride on the engine of a freight train in Texas. In my opinion this was a case of masked epilepsy, presenting the phenomena of perambulatory automatism.

Dr. Landon Carter Gray, in his recent work on nervous diseases, reports the case of a lad of fourteen years, who would wander for days about the lower quarters of New York, often earning wages without exciting suspicion in those about him, till he would suddenly return to his normal condition and wend his way home.

April 5, 1894, I was called by Dr. V. L Todd to Kansas City, Kan., to see a man who gave the following history: Age, 32; native of Indiana. In 1884 went from his home in Indiana to the neighboring town of Nokomis where he drank beer with some friends. He remembered nothing further until he awakened in Kansas City about two weeks later minus $60 or $70 which he had when he parted from his friends in Nokomis. He had visited Kansas City a year or two previously. In January, 1893 this man, who was now a resident of Kansas City, Kan, went to Kansas City, Mo., on a

business errand and had a wordy altercation in which he became greatly excited. He lost consciousness, but returned home in a dazed condition, so evidently abnormal that his family sent for a physician. For two or three weeks prior to January 16, 1894, patient complained of pains in the head and would wander out in the cold in his night clothes. Was up two or three times and out on the porch on the night of January 15, 1894. At 8 A M., January 16, 1894, he left home and was not heard from until March 3, when he wrote a letter from St. Louis stating that he was sick and destitute and wanted to come home. He claims he has no recollection of leaving Kansas City or of anything that happened until ten or twelve days after the disappearance he awakened in front of the *Globe Democrat* office in St. Louis and was entirely ignorant of his location till he read the name of the paper on the building. This man was treasurer of a lodge, and several hundred dollars of the lodge money disappeared with him, thus involving in the case an interesting medico-legal question. On examining this patient's skull two depressed fractures were discovered. He also gives a history of two attacks of la grippe in which there were marked psychical symptoms. Patient's father also had attacks of aimless wanderings from home. Since his return from St. Louis he has had frequent attacks in which his eyes would have an unnatural expression and his wife would have to shake him violently to restore him to his normal condition.

J. E. S, of 635 Troost Avenue, Kansas City, Mo., was referred to me in the latter part of March, 1894, by Dr. J. D. Griffith. He was 26 years old, single, and a pressman by trade. There was no evidence of an injury of any sort, no reflex irritation and no specific history. For about eighteen months this young man had been subject to almost daily attacks of epileptiform convulsions, quite variable in character and altogether atypical. He was always unconscious, but seldom hurt himself in falling and never bit his tongue or frothed at the mouth. Some attacks occurred without any convulsions. On one occasion he arose and ate his breakfast, took a walk with his brother and suddenly "come to," as he expressed it, and asked about breakfast, having no recollection of the events of the morning. At another time he walked out of the house, apparently well, and found himself at the end of the Twelfth street cable line, about two miles from home, but after going about fifty feet again became unconscious and was found by his friends near home. He had several attacks of aphonia, one of them lasting twelve hours. This feature of the case, the patient says, is very curious to him, and his manner of describing it impresses one with the fact that he is neither shamming nor hysterical. On moderate doses of the bromides and cannabis indica this young man's attacks ceased at once, but reappeared after three weeks. During the next two weeks he had six or eight rather violent attacks. The family then moved to the suburbs, at my suggestion, and he has been free from any attacks since that time, a period of four weeks. Since change of environment nearly always acts favorably for a time, I am in doubt as to the significance of his present improvement. I believe, however, that the prognosis is much better in masked epilepsy than in the ordinary form of the disease, unless, of course, a gross lesion stands in a causative relation to the disease. I also believe that in functional cases, such as the one last described seems to be, suggestion may be made to play an important role in the treatment.

Creolin in the Treatment of Leprosy.—The *China Medical Missionary Journal* for March publishes accounts of two cases of leprosy. The first patient, a young man seventeen years of age, had his arms, legs and face covered with large, prominent leprous nodes, some of which had ulcerated. The skin over and around the nodes was anesthetic, and beneath the skin innumerable smaller nodes could be felt. He was put under the influence of ether, and about fifty of the larger nodes were removed by making an incision in the skin and scraping with a Volkmann's spoon The ulcers were also scraped and all the wounds were dressed with lint saturated with a mixture of creolin and glycerin. They healed rapidly, and afterward the whole skin, wherever nodes could be felt, was rubbed every day with the same mixture. This treatment was continued for nearly three months, and the patient was dismissed with no trace of the disease, except scars and a few anesthetic patches on his arms and legs. The second patient, a man twenty eight years old, noticed that his eyebrows had begun to fall off, and applied for admission into the hospital. He showed the characteristic appearance of leprosy; the upper lip was very thick, the outer half of each eyebrow was gone, the margins of the eyelids were thick and hairless, there was slight ptosis, and there was constant lachrymation. Lepra bacilli were found in fluid taken from his face. The fingers were numb but not distorted. The mixture of creolin and glycerin was rubbed into the affected parts every day for about two months, and electricity was applied to the eyelids and to the hands. The improvement in this case, the author says, was slow, but satisfactory. The eyebrows began to grow, lachrymation ceased, and the lip was reduced to its normal size. The ptosis continued, and the eyelids were not very much improved in appearance owing to the difficulty of applying the creolin to them, but the fingers regained their sense of feeling, and altogether the patient was much improved. The author saw him about a month after he had left the hospital, and up to that time there had been no return of the disease. The author thinks that if leprosy is treated in its early stages it can at least be checked, but whether it can be eradicated remains to be proved.—New York *Medical Journal.*

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Surgical Critics.

Whilst formerly the daring and enterprising surgeon, especially if he was young, had smooth sailing, and whilst only once in a long while the modest question was raised by an outsider whether such and such an operation was really necessary, the doubting Thomases, the carpers and cavilers of surgical capital operations, especially those pertaining to the abdominal cavity, have increased in numbers to an alarming extent. Formerly such critics would content themselves with saying fools rush in where angels fear to tread. That was the end of it. Now, however, these surgical critics have become bolder and more aggressive. They have ceased talking about useless operations, substituting the epithet "criminal" instead.

The most radical and pronounced among these critics is certainly Dr. Thomas O'Reilly, of this city, who was filled with righteous indignation to such an extent that he applied to the Board of Health asking as it were for an injunction against the surgeons endowed with reckless and savage butchers' instincts. The Doctor seems to have a very exalted idea of the power of a health commissioner. If he ever had been one himself he would know that his hands and feet are tied as to the suppression of many more palpable nuisances than the indiscriminate laparotomist.

It would be perhaps an ideal state of public sanitation if the health commissioner, who, of course, would have to be a shining example of proficiency and impartiality, would be endowed with the power of inquiring in case of death from operation into the justifiability of surgical procedures. As it is, whenever a doctor notoriously has killed a patient either by an unwarranted or bungling operation the medical profession only whispers about it. For it is *bon ton* and a requisite of the code not to talk disparagingly or in a spirit of censure of the disastrous results following surgical operations. The trouble is that the average doctor feels that he himself might get into a tight place. Hence a superabundance of charitable silence.

As is generally the case in newspaper discussions about medical matters, interviews and communications to the various editors have been published by individuals who had an ax to grind. It was amusing to see what a stupendous amount of naive pharisaism lurks in the composition of some doctors. Of course, they all condemn unnecessary or fake operations in general, but particularly laparotomies. Quite a hilarious effect must have been produced by a letter written to Dr. O'Reilly commendatory of his course and participating in his indignity. The earmarks which this letter bore pointed unmistakably to a surgical enthusiast who is by all who know him considered as the prototype of that class against whom Dr. O'Reilly has tried to call in the aid of the authorities. It is the old game of crying, stop thief, when you are the thief yourself. It is the time-hallowed method of turning up the eyes in holy indignation over practices which ethics and religion condemn only to show the public that might suspect you that you are not that kind of a surgeon, but that it is the other fellows that are to be blamed.

The fact of the matter is that Dr. O'Reilly is right, that operations on the abdominal and generative organs are daily performed for which there does not exist the shadow of a justification. There is not a man in the medical profession, who is not aware of the existing evil. Everybody that has any knowledge about the extent of this crying evil of the day condemns it, but the loudest of all, the most persistent and most verbose, is he who most frequently commits these surgical crimes.

And the remedy? We doubt that there will be one in the near future. To us this lamentable state of affairs seems to be the immediate outgrowth of the recognized cancer of the *body medical*, the multiplicity of medical colleges and consequently a multiplicity of individuals who style themselves professors of surgery. Anybody that has a superficial knowledge of the mental caliber of some of these "professors" will know how it comes that the student's mind is filled with heroic notions about surgical daring, even where the daring amounts to criminality. The fact is that too many

pseudo surgeons occupy professional chairs, who have as much calling for this vocation as the mule has for the performer on the piano. The introduction of asepsis is to blame for it. Being in itself one of the greatest boons for humanity, it has placed a formidable weapon in the hands of many unscrupulous imbeciles. The euphonious appellation of "exploratory operation" covers a multitude of surgical sins and incapacities. The flippant manner, too, in which some of these worthies speak to the students about their mistakes and the insignificance of human flesh when the "science of surgery" comes into play, has a debasing influence on the juvenile mind. Formerly there were master surgeons who did not consider it beneath their dignity to serve in their youth a long and laborious apprenticeship in the principles and practice of surgery. This was in the pre antiseptic and pre-aseptic period. Nowadays the young man who has had the misfortune of absorbing and appropriating the teachings of the class of surgical fakirs, the pseudo-professors, will leave the college with the firm determination of operating on the first case of appendicitis, pus-tube or ovarian tumor that presents itself. Here, then, lies the difficulty of solving the question as to how to suppress the surgical sooner. A condensation and concentration in medical teaching brought about by the suppression of some colleges and a consequent diminution of the number of professors of surgery with a due regard, of course, of the survival of the fit, in fact, better medical teaching, and a higher plane of medical knowledge and medical ethics among the profession at large will alone succeed in squelching the professional womb and ovary extirpator and the ignorant exploratory laparotomist. But the main aid in the direction of reform is to come from our recognized leaders in surgery themselves. They are the ones that are injured most by the practices of the experimental vivisectionist. Their honest work necessarily, though innocently, suffers from the stigma which is impressed upon surgery by the licensed fakirs.

Spread of Infectious Diseases Through Railway Travel.

Petri has published through the official channel of the Imperial Health Office at Berlin the results of some experiments concerning the spread of infectious diseases, especially tuberculosis, through travel by rail and the health regulations which may be required (*Hyg. Rundsch; Diet. and Hyg. Gaz*). After the methods of Cornet, the author collected the dust from the walls, furniture and coverings of forty-five compartments belonging to twenty-one railway coaches. This dust was inoculated into one hundred and seventeen experimental animals. Forty-five of the guinea pigs died of various infectious diseases in the first few days after the inoculation, namely, twenty-seven of peritonitis, fourteen of malignant edema, three of abscesses, and one of tetanus. Three animals became tuberculous, which received dust from two sleeping coaches.

Expectoration upon the floors in thirty four compartments was injected into ninety one animals, of which twenty-eight quickly died and from their bodies staphylococci, streptococci, the bacillus pseudotuberculosis and the bacillus of mouse septicemia were recovered. The remaining sixty-three animals were watched for six weeks and were then killed. Of these, three animals were found suffering with unmistakable tuberculosis starting from the point of inoculation; the others were found to be healthy.

As to the relative number of bacteria in different situations and classes, the author's examination of separate compartments resulted as follows: Most bacteria were found in compartments of the fourth class (upon 100 sq. c. m. of the floor, 12,624; upon 100 sq. c. m. of wall, 161 to 2,646; upon 100 sq. c. m. of covering, 10), fewer in those of the third class (respectively 5,481; 1,549; 11); least in those of the first and second class, between which two in fact there was no appreciable difference (floor 4,347; carpet over the wood 29; coverings 0 to 1).

Experiments concerning disinfection of compartments of the coaches demonstrated that there is no effective means of disinfection exclusive of steam. Furthermore, the kind of complete disinfection that is performed by the practiced employes of the municipal (Berlin) disinfection station does not produce a decided lessening of the number of bacteria.

Various experiments at modes of cleaning (soap-lye in different concentration 1–10 per cent; warm water or douching with the spray followed or not with dry rubbing with sterilized towels or chamois) have shown that compartments of the first and second class are very much more difficult to free from their bacteria than are those of the third and fourth class. For the latter, even when very dirty, one per cent soap solution followed by douching and subsequent dry rubbing will free them of most of their bacteria. In the latter compartments, a fresh covering of oil paint enables us to attain a complete sterility of the surfaces.

By simply washing off the linoleum of the second class compartments, the bacteria are reduced to one-tenth their number.

MEDICAL SOCIETIES

American Surgical Association.

Annual meeting, held at Washington, May 29, 30, 31 and June 1, 1894. The President, Dr. J. Ewing Mears, of Philadelphia, in the Chair.

We are indebted to the New York *Medical Journal* for this report.

THE SURGICAL TREATMENT OF EMPYEMA

was the title of a paper by Dr. John Ashurst, Jr., of

Philadelphia. The following summary was presented:

1. No operation is justifiable unless the presence of pus is certain; unless thorough treatment by medicinal agents, blisters, etc., has failed; or unless the symptoms, dyspnea, etc., are so urgent as to demand immediate relief.

2. The first operation should consist of simple aspiration, with antiseptic precautions.

3. When the fluid has partially reaccumulated, as it almost certainly will do, if purulent, incision and drainage should be practiced.

4. Drainage is best effected by making two openings, one at the lowest point, and carrying a large drainage-tube through the cavity from one opening to the other.

5. Drainage should be supplemented by washing out the cavity with mild antiseptic fluids; when the lung has expanded and the discharge has nearly ceased, the tube should be shortened, the upper opening being allowed to heal, and the tube then being gradually withdrawn through the lower opening.

6. When the lung is so bound down by adhesions that it can not expand, resection of two or more ribs should be practiced (Estlander's operation, so called) in order to allow collapse of the chest-wall and to promote healing by bringing the costal and visceral layers of the pleura in contact.

7. The more extensive operations of Schede and Tillmans, while probably justifiable in exceptional cases, are not to be recommended for general employment.

Dr. Charles B. Nancrede, of Ann Arbor, did not see the advisability, in cases where pus was shown to be present by aspiration, of limiting the treatment to this operation. It was held that in a few cases this would be followed by cure, but he had never seen such a case. Where pus was present, he preferred to provide for its permanent evacuation immediately. He called attention to the danger of the drainage-tube becoming occluded by the pressure of the ribs, and he believed that in empyema of long standing some form of excision of the ribs should be employed. In irrigation, if the pus was not too much contaminated, sterilized water was sufficient, but, if necessary, an efficient antiseptic solution should be used, and, if there was danger of absorption, the chest could afterward be flushed with sterilized water. If provision was made for the free escape of pus, he saw no necessity for the removal of large segments of ribs.

Dr. T. F. Prewitt, of St. Louis, thought that the rule that no operation was justifiable unless the presence of pus was certain needed modification. As a rule, we could determine only that fluid was present, and could not be sure that it was pus. He thought it advisable to aspirate, even when serous fluid was present. If thorough antisepsis was maintained, this could do no harm. He had never seen it result in the formation of pus, and this method greatly shortened the duration of the disease. In empyema in children he had seen several recoveries follow aspiration, but none in adults. In children the pus did not seem to possess that thick, clotting character so common in adults, which required a free opening. In empyema in adults he invariably resected a rib, sometimes two ribs. Attention was called to the great necessity of caution in the administration of anesthetics in cases of this affection. As to washing out the cavity, he always did that, using a weak solution of bichloride of mercury.

Dr De Forest Willard, of Philadelphia, thought that the whole question was one of thorough drainage of an abscess cavity. Whether or not the ribs should be excised was to be determined by the question of securing free drainage. In children the ribs were so close together that removal of a portion was usually required. In the early treatment he favored the use of a clean aspirator rather than waiting for Nature to cause the absorption of a large quantity of fluid. Such an operation did no harm and saved several weeks' time. He believed that washing as a routine measure did more harm than good. If the pus was decomposing it indicated that freer drainage was needed. If strong antiseptic solutions were employed, there was danger of renewed inflammation.

Dr. John E. Owens, of Chicago, called attention to the necessity, when evacuating pus from the chest or washing out the pleural cavity, of changing the position of the patient during the process in order that all the pus might be removed.

Dr. Christian Fenger, of Chicago, considered that there were certain cases in which Schede's operation was required. It was appropriate after milder measures, such as incision, drainage, and Estlander's operation. He reported a successful cure where this operation had been performed after other measures had been resorted to during seven years.

Dr. Roswell Park, of Buffalo, thought that the treatment of empyema should be based upon the same principles as were applicable to other abscesses. In acute cases, where we had to deal with streptococcus and staphylococcus forms of suppuration, it might be sufficient in a few instances to simply aspirate. A large proportion of cases of empyema, however, were essentially cold abscesses—tubercular abscesses. In these cases free incision, free drainage, and excision of a rib were required. In certain cases he had resorted to scraping with the sharp spoon, and in some had cauterized the diseased surface with a 50 per cent solution of chloride of zinc. He reported several cases where death would have occurred had it not been for some such radical operation.

Dr W. H. Carmalt, of New Haven, asked how far it was justifiable to go in the way of resection of ribs in these cases. He reported a recent case in which he had removed portions of five ribs, the longest piece excised being four inches and a half long. In these cases it was necessary to remove enough of the chest-wall to permit of obliteration of the cavity. He had also used the sharp spoon in order to secure a fresh surface.

Dr. M. H. Richardson, of Boston, said that the questions that arose in the treatment of empyema were

different from those in ordinary abscess, for in the former condition there was an abscess with rigid walls. With regard to drainage, he had used double tubes provided with a valve, but considered them inapplicable and apt to cause increased trouble, for when air or pus was forced out through the tubes by coughing, a vacuum was established and the valve was held against the chest-wall, preventing drainage. He believed that Estlander's operation was applicable only to certain forms of cavity, and that there were certain cases where the cavity involved a large portion of the thorax, in which Schede's operation was the one applicable after the failure of Estlander's operation.

Dr. Stephen F. Weeks, of Portland, Me., thought that Dr. Ashhurst's rule to aspirate, especially in children, was a good one; sometimes that would result in a cure. The tuberculous cavity was to be treated differently from the cavity where this condition did not exist. Thorough drainage was sufficient in many cases. He called special attention to drainage by packing the cavity with sterilized gauze. In twenty-four hours he removed the gauze and washed out the cavity.

Dr. L. McLane Tiffany, of Baltimore, considered that the treatment of acute empyema was of more importance than that of the chronic form, as it was the more common. The most important points bearing upon treatment and prognosis were the character of the pus and its bacterial cause. The reason that the child's empyema often yielded to aspiration was that in many of these cases the pus was simply a pure culture of the pneumonococcus. In the adult we rarely saw the pneumonococcus form, but there was a mixed infection. If the empyema was of the amebic form, the patient would die. If empyema was due to the streptococcus, the odor was offensive and the cavity needed to be washed out carefully. If empyema was due to staphylococcus, washing out was not required. Where there was time, he preferred to withdraw some of the fluid with the hypodermic syringe and have it submitted to bacteriological examination. While he used ether in general work, in these cases he preferred the use of a few whiffs of chloroform, which appeared in these cases to have a peculiarly happy effect. Only a very small quantity was employed. The employment of respiratory gymnastics was of much benefit in favoring the expansion of the contracted lung.

Dr James McFadden Gaston, of Atlanta, referred to the natural tendency of the empyemic cavity to open spontaneously in the anterior part of the chest. He reported two cases in which this spontaneous opening had occurred and been followed by recovery.

Amputation of the Entire Upper Extremity.

Under this title Dr. W. W. Keen, of Philadelphia, presented a paper in which were considered first those amputations which allowed of simple disarticulations at the shoulder joint itself; those in which the axilla was invaded, yet only to such an extent as to allow of its being thoroughly cleaned out, followed by amputations at the shoulder; and those in which removal of the entire upper extremity, including the scapula and clavicle, was required. In simple amputation at the shoulder joint the control of hemorrhage was the key to the situation. The methods for the prevention of hemorrhage were:

1. Those applicable to the subclavian vessels.

2. Those applicable to the axillary. Most text books recommended compression of the subclavian by the thumb or a well-padded key. Dr. Allis had modified this method by substituting a stick eighteen inches in length with a pad of sterilized gauze at its extremity. This obviated the danger of slipping and could be applied without fatigue on the part of the operator. The author had suggested compression by means of a solid pad held in position by an Esmarch bandage, but on trial in the case of a child this had proven unsatisfactory.

A third plan consists in ligation of the subclavian artery. This was objectionable on account of the prolongation of the operation, also on account of the necessity of resecting the clavicle in order to ligate the vein, for if the vein was not ligated there was danger of the entrance of air.

Axillary Methods.—1. Those in use prior to the introduction of Esmarch's tubing.

2. Different methods of using Esmarch's tubing. Under the first head there were:

a. Compression of the inferior flap by the fingers, which seized the vessels before they were cut.

b. Harvey's method by compression of the vessels by means of a padded ruler thrust into the axilla.

c. Ligation or seizure of the vessels with hemostatic forceps before they were cut.

d. Gross' compressor; but practically this was never used.

e. Furneaux Jordan's method by making a surgical amputation at the surgical neck, securing the vessels as in hip-joint amputations, the blood-vessels having been compressed by an Esmarch band or other means followed by disarticulation of the upper end of the humerus.

Under the second head: *a.* After making the antero-external flap, a stout pin was passed through the postero internal flap between the vessels and the bone, and elastic tubing wound over the end of the pin. In this method there was danger of the vessels retracting above the constricting band.

b Esmarch's method, in which an elastic tube was placed in the axilla and drawn tight over the shoulder, where it was grasped by the hand of an assistant. This was open to the danger of slipping of the bandage after disarticulation of the bone.

c. Morre's method, in which the tubing was applied as in the Esmarch method, but was held in place by a bandage passing around the chest and under the tubing in front and behind.

d. Wyeth's method by pins and elastic tubing. In this method the operation is performed as follows: The

arm was held at a right angle to the body. The sharp-pointed cylindrical pins, eleven inches long and a quarter of an inch in diameter, were used. The anterior pin was introduced through the middle of the anterior axillary fold at a point a little nearer the body than what might be called the center of the fold transversely. The point of emergence was of much greater importance than the point of insertion; this should be an inch within the tip of the acromion. The second pin was introduced at a corresponding point through the posterior axillary fold, emerging an inch within the tip of the acromion. The point of emergence was of importance, for if the pin emerged near or at the tip of the acromion, the moment the head of the humerus was removed the tubing was apt to slip downward and compress the two flaps against each other, thus hiding the cavity and permitting the vessels to retract. The pins being in position, a piece of rubber tubing was wound round the axilla and shoulder on the hither side of the pins. The disarticulation having been effected, the main vessels and all visible vessels were tied and the tubing was removed, the vessels spurting being grasped with hemostatic forceps. The author considered this the most satisfactory method of controlling hemorrhage and he felt confident that any one who adopted it would abandon all other methods in its favor, except possibly in emergency cases.

As to amputation at the shoulder joint in cases in which the axilla was invaded so high that Wyeth's pins could not be used, in 1812 Delpech had proposed to make an oblique incision extending from the external third of the clavicle to an inch above the inferior border of the great pectoral muscle. We thus discovered the lesser pectoral and could cut near to its origin on the coracoid process of the scapula. The index finger was then carried through the cellular tissue along the serratus magnus, then the subscapular, and was used as a hook in order to draw the mass of vessels and nerves outward. The artery was found in the anterior portion of this mass. The artery and vein were then ligated. The advantages of this method were that it gave wide access to the axilla, and that we could determine with ease how far and how great was the invasion of the axilla, so that, if thought advisable, the operation could be abandoned at this point, or, if it was decided to proceed with the operation, the incision already made served as the inner part of the deltoid incision. The author had employed this method with great satisfaction in a case where a sarcoma of great size had invaded the axilla nearly to the clavicle.

As for cases in which it was necessary to remove the arm, the scapula, and the clavicle, the methods which had been employed to control hemorrhage had been:

1. Simple compression of the subclavian artery.

2. Compression of the artery after resection of the clavicle.

3. Ligation of the subclavian prior to beginning the amputation.

4. Resection of the middle half of the clavicle and ligation of the subclavian.

5. Wyeth's procedure of first tying the artery, then forming the flaps and, when the arm, clavicle, and scapula were only connected with the trunk by the veins and nerves, securing the veins and cutting the nerves.

6. Ligation of the artery and vein after resection of the middle portion of the clavicle. This seems to be by far the preferable method. The advantages of this method were that it prevented hemorrhage from division of the axillary and its branches, it diminished the amount of blood lost during the operation, it prevented the entrance of air into the veins, it permitted of a large opening of space betweed the upper extremity and the chest, and it enabled us to divide the posterior attachments of the upper extremity, where the arterial circulation was still going on, at the end of the operation.

As a rule, recovery from this operation followed in from two to three weeks. The mortality in the more recent operations had been extremely low—one in fourteen. Again, by this method we could often amputate wide of the disease, in consequence of the relative smallness of the flaps required. In view of these facts, the author urged that in all cases of malignant disease of the upper end of the humerus, or even of the lower end when it was already diffused, we should not content ourselves with mere amputation at the shoulder joint, but should at the same time extirpate the scapula and clavicle.

The author reported a case in which the arm, the scapula, and the clavicle had been removed for myeloid sarcoma occurring in a woman aged twenty years. The operation had been done on November 20, 1893. The patient had recovered and was still perfectly well.

Dr. Roswell Park, of Buffalo, said that he had had two cases of total removal of the upper extremity, both of which had been successful. One had been for railroad injury and the other for extensive epitheliomatous ulcer. In the first case the clavicle had already been broken and the subclavian vessels were secured at the point of fracture. In the second case the clavicle was divided and the vessels were tied.

Dr. Charles B. Porter, of Boston, reported, as an illustration of the rapidity with which malignant disease might advance, the case of a patient with sarcoma of the radius in which the arm was amputated above the elbow. The disease soon recurred and amputation at the shoulder joint was done, and again the disease recurred so high up that no operation could be employed. The whole history of the case extended over only a year after the first operation. A case was also reported where the arm had been torn off in a railroad accident where the speaker had subsequently removed the scapula and the outer portion of the clavicle by an osteoplastic resection, and closed the wound by skin grafts. Three months later a hard plate of bone had formed very similar in shape to the scapula.

Dr. John Ashhurst, Jr., of Philadelphia, said that

he had once used the Wyeth pins satisfactorily in an amputation at the shoulder joint. Another device to which he had resorted in several cases was to make the incision in the lower flap from without inward and secure the vessels in the wound.

Mooted Points as to Fractures of the Arm, With a Notice of an Improved Splint.

Dr. J. McFadden Gaston, of Atlanta, read a papar the purpose of which was to ask attention to practical considerations touching the treatment of fractures near the articulations of the arm. In cases of fracture complicated with dislocation, the author saw no advantage in first setting the fracture, but preferred to reduce the dislocation before treating the fracture, and efficient means should be taken to prevent the recurrence of the dislocation.

With regard to fractures at the wrist, the only one in which there was any notable diversity of opinion was Colles' fracture, which occurred from half an inch to an inch from the carpal articulating surface. In most cases the adjustment could be effected by extension up on the hand and pressure over the projecting lower fragment, but there was usually difficulty in maintaining apposition. The apparatus for Colles' fracture should control every movement of the wrist or of the fingers. This was effectually accomplished by the splint originally adopted by Nelaton. The dorsal and palmar Nelaton splints kept the fragments in their proper position, and with the extension effected by the pistol-handle-shaped splint all the requirements were met. To leave the fingers exposed, that movements of them and of the carpal bones might accompany the treatment, was more likely to increase the local inflammation than if complete rest was maintained. Early movement of the fingers and of the carpal joint must increase the tendency to subsequent stiffness. After considerable experience with the double pistol-handle-shaped splint in the treatment of Colles' fracture, the author had never seen a case in which there had remained any permanent impairment of the use of the fingers or the wrist joint, or any material deformity had followed the treatment.

Dislocation of the head of the radius or the upper part of the ulna was frequently observed in connection with fractures of the lower extremity of the humerus. These required correction before the fracture was treated. A stiff arm in the extended position was practically useless, while in a flexed position it was of much service. While it was held that with proper precautions ankylosis should not occur, yet there were cases with such complications that ankylosis would ensue in spite of the best treatment. Where the surgeon could not reasonably expect to avoid ankylosis there was no question as to the necessity of treating the arm in an angular position. The practicability of maintaining the fragments in position when the fracture involved the articulation was favored by the flexed rather than by the extended position. The rather fanciful allegation in favor of the extended position being favorable to the preservation of the outward angularity of the forearm upon the arm was not entitled to any special consideration, as there was nothing in the flexed position to interfere with the relation of the radius and ulna to the humerus. The comfort and convenience of dressing the arm in the flexed position also commended it. The author considered the use of a straight splint applicable only in fractures of the olecranon.

In the treatment of fractures near the elbow, the author applied a roller bandage from the fingers to above the seat of injury, and with the arm in a flexed position pasteboard splints were molded to its inner and outer surfaces. These splints extended from the wrist to the shoulder. An internal angular splint was applied to the outside of the dressing until the pasteboard had become thoroughly dry. This dressing had all the advantages of plaster of Paris, and could be removed daily if it was desired. The results of this method had been entirely satisfactory.

Fractures near the head of the humerus might be intracapsular or only implicate the tubercle outside of the capsule. The most frequent seat was through the surgical neck. It was for this class of cases that a special splint had been devised by the author, the object being to effect extension and counter extension and keep the fragments in place and at rest. The splint was formed with a right angle in the plane of the board at the elbow. The arm was to be kept close to the body. A crutch-shaped branch was the special feature of this splint. Several cases were reported in which the splint had been used with success.

[TO BE CONTINUED]

ABSTRACTS

MEDICINE.

The Action of Oxalates on Nerves and Muscles.—In the last number of the *Journal of Physiology* there is an interesting article on this subject by Dr. W. H Howell, of Baltimore. The author has experimented upon frogs and terrapins with a solution containing sodium oxalate applied by irrigation through the capillaries of the nerves and muscles, the oxalate being thus brought into the most intimate contact with the tissue elements. With regard to the nerve fibers, the object of the experiments was mainly to determine the effect of the oxalates upon the nerve current and the negative variation, using these two phenomena as signs of the living structure and irritability of the fibers. In the experiments upon muscle, attention was directed chiefly to the effect of the irrigation upon the irritability of the muscle and its power of entering into the condition of rigor mortis.

The course of an actual experiment is described as follows:

The animal was first washed out with normal saline, and then irrigated with the sodium-oxalate solution; when a four-to-one thousand solution was used, the irrigation was kept up for about an hour. The sciatic nerve of one side was then exposed, and its irritability was tested by stimulation with induction shocks from a Du Bois-Reymond coil; it was then removed and its nerve current and negative variation were determined. The leg from which the nerve had been removed was ligated, its blood vessels were washed out, and afterward it was irrigated for a number of hours with a solution containing calcium salts. Fifteen experiments were made and the results varied somewhat in character in each experiment, but the main facts were constant throughout, and the author has reached the following important conclusions:

1. Irrigation of a nerve with dilute solutions of sodium oxalate destroys completely its irritability toward electrical stimuli.

2. Nerve fibers after irrigation with sodium oxalate lose their demarcation current more rapidly than the normal nerve.

3. The loss of irritability in the neuro-muscular apparatus affects first the endings of the nerve in the muscle.

4. In the case of the heart, long-continued irrigation with a six to one-thousand sodium-chloride solution will suspend its irritability.

With regard to the action of sodium oxalate on the skeletal muscles, Dr. Howell says that when a frog is irrigated with oxalate solution in the manner described above, the muscles are effected quickly; twitching movements of the toes begin in a few minutes and soon extend to the muscles of the legs and of the trunk. In his experiments the movements have varied in character, in some cases being violent, with strong convulsive contractions of the muscles and limbs following each other rapidly. In other cases the movements have been much gentler. He had made twelve experiments, and used sodium oxalate in seven, potassium oxalate in three and ammonium oxalate in two. As to the results of the experiments, he found that in every case the "oxalated" muscle went into rigor mortis, and in every experiment but one it began to shorten before the normal muscle. In the normal muscle the time of the first appearance of rigor mortis varied from sixteen to seventy-eight hours after removal from the body. In the "oxalated" muscle, although rigor had begun earlier, the limits observed were from less than an hour to eighty-eight hours. In the "oxalated" muscle the shortening often began quickly, perhaps immediately, after the muscle had been suspended, but usually this shortening was comparatively slight and soon ceased. The muscle might remain in this condition for a number of hours before the final rigor contraction began. In the normal muscle there was, in some experiments, a slight contraction, followed by a relaxation occurring before rigor definitively set in. The maximum shortening of the "oxalated" muscle was in every case less than in the normal muscle from the same animal, but the difference was often quite small. The energy liberated in the "oxalated" muscle during the onset of rigor was apparently less, so far as the performance of mechanical work was concerned, then in the normal muscle.

In the action of oxalate solution upon muscle and nerve, Dr. Howell says there are certain points of resemblance which may be mentioned. In each, the irritability is quickly destroyed, but the tissue does not at once entirely lose the structure characteristics of organized matter. This is made probable by the fact that the nerve fiber still shows a demarcation current, and the muscle fiber is still capable of undergoing rigor mortis. The action of the oxalates, however, accelerates in each case the disorganization of the living structure of the tissue; rigor sets in more rapidly in the muscle, and the demarcation current disappears more quickly in the nerve.

Dr. Howell thinks the important fact brought out in these experiments is that the action of oxalate solutions upon skeletal muscle may be carried for enough to completely destroy its irritability toward electrical stimulation without injuring or, at least, destroying its property of entering into the condition of rigor mortis.—New York *Medical Journal.*

Treatment of Typhoid Fever.—Osler (*Johns Hopkins Hosp. Repts.*) states that 229 cases of typhoid fever have been treated in the hospital (*Brit Med. Jour.*). The cases in the first year, 33 in number, were treated symptomatically; they yielded a mortality of 24.2 per cent. The remaining cases were subjected to the cold bath treatment, and yielded a mortality of 7.1 per cent. The cases in the first year were of unusual severity, but the mortality under the cold bath treatment was very favorable when compared with the average mortality in hospitals in America, which according to Osler ranges from 10 to 15 per cent. A bath at 70° was given every third hour, when the temperature taken in the rectum was 102.5 or over. If the fever was very slightly reduced by the bath at 70° it was given colder (65°) The temperature was taken half an hour after the bath, and again three hours after. If then above 102.5° the bath is repeated. The frequency of the baths thus depended on the severity of the case; the average number in the twenty four hours was four, but the maximum number, eight, was often given. The patient was lifted into the bath covered with a sheet or with a napkin round the loins. Cold effusions to the head during the bath were regarded as important, especially in cases with marked nervous symptoms; a cloth wrung out of ice water placed upon the head, and the head and face bathed with a sponge with the same water. The trunk and limbs were rubbed during the bath with a cloth or bath-rubber; this was found to counteract the shivering and tendency to cyanosis. The usual duration of the bath was twenty minutes, but in feeble patients the

duration was reduced, when there were signs of increasing weakness. Brand's injunction to begin the treatment at the very beginning of the disease could not be carried out in the majority of cases, as only 95 cases were admitted in the first week, and most of these at the end of it. Half an hour after the bath the temperature was found to have been lowered from 1° to 3°, but, as a rule, during the height of the disease, in two hours more the temperature had risen again to its former height. In "not a few cases" the bath at 65° had very little influence in reducing the fever, and in none was it found possible to keep a patient afebrile. In some cases, particularly in children, and at a late stage (third week) in adults, the bath at 70° brought the temperature down to normal, or 96° or 95°. The bath has a tonic effect on the circulatory system, especially in the early stage of the fever; it seems to be exercised as much on the peripheral arterial system as on the heart. The most striking effects of the bath are on the nervous system—headache is relieved; the patient sleeps well; tremor, delirium, stupor, and coma are rare. In the series reported only 13 presented marked nervous symptoms. The dry, brown tongue, and gastric irritation, are less often seen. Speaking generally, the "typhoid state" is not nearly so frequent under the cold bath treatment, which appears also to have an influence in diminishing diarrhea and tympanites. In the series reported, hemorrhage and perforation were more frequent and relapse more often observed in those treated by the cold bath treatment, but this may have been accidental, and, as has been stated, the general mortality was much lower. Complications were rare, with the exception of boils, which were frequent. The baths do not aggravate the preliminary bronchitis, and do not induce pneumonia or pleurisy.

Apocynum Cannabinum in Heart Disease.—A. G. Glinski (*Vratch; British Medical Journal*) after having proved by experiments on cold-blooded and warm-blooded animals that the root of the apocynum cannabinum contains a strong poison which in large doses paralyses the heart, and when given in small quantities retards and strengthens its beats, decided to take it himself, as he is, suffering from hypertrophy of the left ventricle, with intercurrent attacks of dilatation of the organ, mitral murmur, dyspnea, etc. The dose was 15 drops of the fluid extract three times a day. As he found that all his symptoms disappeared in two days, he gave it also to other patients in the same quantity in cases of palpitation, disturbed compensation, in which strophanthus, and adonis vernalis had failed and digitalis seemed contraindicated. He gives a full account of some of his cases, and summarises his experience in the following conclusions:

1. The action of the root of apocynum cannabinum is similar to that of digitalis, without being cumulative.

2. In cases of dilatation the fluid extract rapidly diminishes the area of dulness.

3. It increases the daily amount of urine, stops the palpitation, and promotes the absorption of transudations.

4. With the exception of increased pulsation of the arteries of the head, it has no bad secondary effects. It was used either in the form of a decoction (℥j to ℥viij), 3 to 4 tablespoonfuls a day, or tincture (1 in 10), 5 to 10 ♏, three to four times daily, or fluid extract in doses of 10 ♏ to half a teaspoonful three times daily.

Functions of the Pituitary Body.—Vassale and Sacchi (*Centralb. f. allg. Pathol.*, May, 1894; *British Medical Journal*) gave a summary of their communication to the Congress at Rome, 1894. Dogs were used, and the pituitary excised or destroyed in situ by the injection of chromic acid and by other means. The intensity of the symptoms varied according to whether the gland was wholly or partly removed, and the results are consistent. They show (*a*) a fall of temperature to subnormal, permanent when excision was complete, but returning to normal in partial excision; (*b*) anorexia, listlessness; and progressive hebetude of the animals (*c*) fibrillary twitchings and tremors of the muscles, with the development later of muscular cramps and spasms (arching of the back, etc.); (*d*) attacks of respiratory spasms (dyspnea); and (*e*) final death. In complete excision many of the symptoms abated if the animal was injected with pituitary extract. The authors conclude that the pituitary must be looked on as producing a secretion which is of profound importance in the nutrition of the nervous and neuro muscular systems mainly. The correspondence between these experimental conclusions and those obtained in the comparative investigations of recent workers (notably Lloyd Andriezen) must therefore be of exceptional and permanent importance for future pathological investigation.

Cancer Houses and Their Victims.—The *British Medical Journal* for June 9 publishes an article on this subject by Mr. D'Arcy Power, of London, in which he says that attention has again been called to the interesting fact that cancer may repeatedly show itself in the same house. He cites the following instances, which were related to him by the physician under whose observation they had come, as illustrations of this point: A woman, forty-seven years old, lived in a certain house for thirteen years and died of cancer of the stomach. Another woman who had lived twenty years in the house succeeded to her place and occupied her bedroom, and died of cancer of the liver a year later. Her successor, a woman sixty-seven years old, who had lived in the house for eight years, died of cancer of the liver and uterus about nine years afterward. These women had apparently been in perfect health before serving as housekeeper in the establishment. They were not related. In another house, within a period of fourteen years, four persons were affected with cancer, three of whom died. Mr. Power quotes from Dr. Fabre's treatise on "The Contagion of Cancer" the following observation by Dr. Molliere: "There is a house

in Lyons wh[illegible]as long [illegible] occupied by well to do peo[illegible] 1873 the owner, who lived on the first floor, di[illegible] cancer of the stomach. Four years later a ta[illegible], who lived in the *entresol*, died, also of cancer of the stomach. The porter died three years later of the same disease, also affecting his stomach Finally, a man who lived on the second floor was attacked, two years after the death of the porter, with cancer of the cervical glands and died within a year. Thus in ten years four deaths from cancer occurred in the same house."

These and other cases cited by the author may be, he says, and probably are, mere coincidences, yet they may point to a more specific origin of the disease. It is impossible to explain them as yet, but such local outbreaks have to be taken into consideration in all investigations with regard to the causation of cancer. The cases, however, are so rare that it is better to record them as they occur than to argue as to their origin, for, he says, any conclusions arrived at now would be based only upon insufficient premises, and would therefore be worthless.—New York *Medical Journal.*

The Use of Erysipelas Toxines in the Treatment of Malignant Disease.—The July number of the *American Journal of the Medical Sciences* continues the account of observations of this plan of treatment, and gives the following conclusions:

1. The curative action of erysipelas upon malignant tumors is an established fact.

2. This action is much more powerful in sarcoma than in carcinoma.

3. This action is chiefly due to the toxines of the erysipelas streptococcus, which may be isolated and used with safety.

4. This action is greatly increased by the addition of the toxines of bacillus prodigiosus.

5. The toxines, to be of value, should come from virulent cultures and should be freshly prepared.

6. The results obtained from the use of toxines without danger are so nearly quite equal to those obtained from an attack of erysipelas that inoculation should rarely be resorted to.

Soils and the Cholera Vibrio.—Experiments by Dr. Dempster, in the laboratory of the British Institute of Preventive Medicine, on the influence of different kinds of soil on the bacilli of Asiatic cholera and of typhoid fever, lead to the following conclusions: White crystal sand, yellow sand and garden earth had no marked action on the organisms, their length of life depending chiefly upon the amount of moisture; peat, on the contrary, was very deadly to both the comma bacillus and the typhoid bacillus. The soil acted as a good filter, holding back most of the organisms, but it was possible for them to be carried through two and a half feet of porous soil by a current of water. In the discussion which followed the presentation of the results of these experiments to the London Medical and Chirurgical Society, the points of practical interest in preventive medicine that were brought out related to the value of the knowledge of a soil deadly to the bacillus—as in peat with its acid reaction; the relative rapidity with which the cholera vibrio dies in dry soil—none surviving beyond the fourth day in the dry sands or garden earth and all dying in one or two days in anhydrous soil, while in moist soils, with evaporation prevented, the bacilli were found alive on the one hundred and seventy-fourth day. On the other hand, Uffelman has shown that the typhoid bacillus could live for forty days on dry wool and for ten weeks in dry earth—a practical argument against the use of the dry earth closet; one speaker suggesting this as a cause of the present prevalence of enteric fever among the British troops in India, where the earth from the latrines, impregnated with typhoid stools and spread upon the land, may be so desiccated in that dry climate as to be readily blown about in the form of dust.—*Journal of the American Medical Association.*

SURGERY.

Orchectomy for Hypertrophy of the Prostate.—Some time ago Professor White, of the University of Pennsylvania, suggested castration in the case of old men affected with enlargement of the prostate. Acting uppon his suggestion, Dr. Francis E. Haynes, of Los Angeles, California, has made three operations which he reports in the *Tri-State Medical Journal.* The first operation had been performed eighty-four days before the report. The disease was of two years' standing and of moderate severity. The patient seems to be cured. The second case was a desperate one requiring the use of the catheter every two hours, complicated by intense cystitis and the morphine habit, which had been acquired as the result of the frightful suffering. The operation had been performed forty-seven days before, and already there was marked improvement. The catheter was used less than before, the morphine had been given up and the general condition was good. The third operation had been performed fourteen days before, too recent an operation for any report. Besides these three cases, the operation is said to have been done twice in Europe, both times successfully, and twice in this country, including one case by Professor White, but with results which have not yet been published.—Columbus *Medical Journal.*

The American Electro-Therapeutic Association will hold its fourth annual meeting in New York, on September 25, 26 and 27, at the Academy of Medicine. Members of the medical profession are invited to attend.

NOTES AND ITEMS

Too Much Science in the Beer.—A good tale is told of the late Professor Tyndall about the time he was a master at Queenwood College, Hants. The village innkeeper had a capital tap of home brewed old-fashioned ale, which the educational staff much fancied. Years passed on, but the scent of the roses remained, and when the professor ran over to look once more at his starting point in life, he went down for a glass of the well-remembered brew. "Simpkinson," said he, after a delicious draught, "I never had any beer like yours since I went away." "No, sir; nowadays they put too much science into beer, 'stead of malt and hops." —*Food and Sanitation.*

Recognition of Dr. Rauch.—Speaking of the effect of the laws intended to regulate the practice of medicine in the improvement of the standard of medical education, Dr. R. H. Fitz, in his annual address before the Massachusetts Medical Society, said: "There is not only a prolongation of the period of study as the effect of these laws, but there is also an increased demand for a preliminary education, the establishment of new professorships, and more exacting examinations for the degree. Of all agents distinctly bringing about this change, the Illinois State Board of Health, and especially its Secretary, the late Dr. John H. Rauch, deserve the highest consideration."—*Jour. of the Amer. Med. Ass'n.*

Where They Move To.—Commenting upon the destination of a recent applicant to the Texas State Board of Medical Examiners—who defined histology as "the history of medicine," and when asked what system he practiced replied, "The Vanderbilt and St. Louis systems and sometimes the homeopath system," further explaining that this latter system consisted in "sweatin' the patient"—the *Atlanta Medical and Surgical Journal* sadly remarks: "In Texas and most other States such applicants are promptly declined and told to move on. They do move on to Georgia, Ohio, etc., where their ignorance is safely guarded by the absence of any law that may interfere with them."—*Jour. of the Amer. Med. Ass'n.*

Moral Depravity Does not Legally Establish Mental Insanity.—No reliable estimate of one's mental condition can be predicated upon isolated and independent acts. It is the entire line of conduct, each act examined with reference to that which preceded and that which followed it, that indicates whether the man is controlled by the dictates of sense and reason, or by the illusions of a disordered mind or imagination. And mere eccentricities of habits or perversion of feelings and conduct, forming what is termed "moral insanity," do not, it is held, constitute legal incapacity. The law recognizes the fact that proof of moral depravity does not necessarily establish a lack of intellectual ability.—*Medical News.*

Guaiacol Topically in Acute Tonsillitis.—Raymond (*Medical Record*) reports successful results from topical applications of pure guaiacol in the treatment of acute tonsillitis. The application is somewhat unpleasant and attended with moderate irritation, which is not prevented by the previous application of cocain, but the duration of which is, as a rule, but brief. Relief of pain follows almost immediately, and in cases presenting febrile symptoms a slight decline in temperature may be observed. The applications were made with a cotton swab dipped in pure guaiacol. A 50 per cent solution in oil of sweet almonds is less efficient. The therapeutic effect appears to be more pronounced in cases of superficial or lacunar tonsillitis than in the phlegmonous variety of inflammation.

Public Health at Home and Abroad.—A congress of sanitarians and medical men will be held in London, Eng., during the latter part of the present month to consider "many topics of immediate and vital interest." In connection with the call for this congress it is announced that "cholera now rages in many parts of Asia, and that strange disease, indefinitely termed the plague, has gained a foothold in the seaboard cities of China. Smallpox is more or less prevalent on the continent of Europe, and it is to deal with these various epidemics that threaten Great Britain that the congress has been called. It is recognized that sanitary precautions of the most rigorous sort must be imposed, but it is thought that timely action will preserve the health of these islands as completely and effectually during the present season of danger as during last year's cholera scare. There is no actual fear expressed, but it is recognized that early measures must be taken in order to conserve the health of the Kingdom." Meanwhile, it may be noted that the freedom from alarm in the United States with regard to the foreign epidemic diseases continues undisturbed. Smallpox is abating and has ceased to furnish the press with sensational head-lines; our sanitary officers abroad fail to discover ground for alarm in the cholera situation—notwithstanding the detection of the cholera vibrio in some cases in Paris, the extent of the outbreak in Belgium and its continuance in Eastern Europe; fewer yellow fever ships have arrived than usual and these have been promptly cared for at the quarantine stations; due vigilance is being exercised with respect to the Chinese plague; and, except for an increased mortality in some localities, due to the phenomenally high temperature of June, the public health conditions of the country, up to date, are most gratifying. To the wide-spread labor troubles we are at least spared the addition of the horrors of a cholera or yellow fever epidemic.—*Jour. of the Amer. Med. Ass'n.*

The Great Plague in China.—A terrible pestilence is known to be raging in Canton, Pakhoi, Hong

Kong, and other large cities in China. The first outbreak was in Canton, where the sewers were abominably filthy from the prolonged drought, causing thousands of swollen and dying rats to crawl up into the streets. The disease is particularly prevalent in Pakhoi, where, every year, the rats are said to give a like notice of its approach. In Canton sixty thousand people died in one week. The symptoms of the epidemic are nearly the same as those of the great plague which almost depopulated London in 1665. There is a sudden onset of fever, the temperature rising to 105° F or above. In some cases there is a premonitory malaise or a chill which troubles the patient. There is much cerebral disturbance with headache, accompanied by stupor. In from twelve to twenty-four hours glandular swellings appear in the neck, axillæ, or groins, which rapidly reach a diameter of an inch or more, and are hard and exceedingly painful on pressure. Whether the fever decreases or not, the patient sinks deeper into a comatose condition, and usually dies before forty eight hours elapse. If six days are reached, the patient may recover. The glandular swellings present no signs of suppuration. Petechiæ appears in a few cases, but there is no regular eruption. There may be epistaxis and vomiting of blood. Purging begins early, and the delirium becomes coma in from three to four hours in severe cases, followed by death and rapid decomposition. Eighty per cent of the victims in Canton died during the first day of the illness. Apparently nothing can change the filthy customs of the poorer Chinese, and they can not be induced to follow the most elementary sanitary practices. The thorough flushing of the drains and sewers and the isolation of infected persons are advised by the hospital authorities.

℞ menorrhagia
Tinct Cimicifugæ ℥i
Elix Nitrous ℥iii
M. Sig Dessertspoonful
every four hours.

COOL RESORTS OF THE ROCKIES many thousand feet above the level of the sea, ensconced in the heart of the Rockies, and away from the burning glare of the mid-day sun, the health and pleasure resorts of Colorado and Utah offer manifold inducements to a suffering populace. Tourist rates via the Missouri Pacific Railway—Coloredo Short Line—to Pueblo, Colorado Springs, Manitou, Denver, Georgetown, Boulder, Salt Lake City and Ogden are extremely low this season, and the excellent through service offered by this popular route from St. Louis and Kansas City to the Rocky Mountain-Resorts, places them within one or two days' time from the Central and Middle States. For full particulars and copy of resort pamphlets, mailed free, addres, H. C. Townsend, General Passenger and Ticket Agent, St. Louis.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

The valuable contribution of Pouchet to the subject of menstruation lends material support to the view that the function pervades the mammalian series, and is subordinate to the law of evolution already propounded. He remarks (*Theorie Positive de l' Ovulation Spontanie*, p. 201), that the commotion excited by the maturation of ovules not only excites the genital apparatus but reacts upon the whole individual. Sometimes it is manifested but once during life; the animal—suddenly exhausted by this concentration of all its vital forces—dies after having produced its ova; this is observed in the majority of insects. The beings of more robust organizations resist this act, and we see that during the middle period of their life they reproduce annually. The majority of fish, reptiles, amphibia, birds, and mammalia are in this case. * * * There exists in these creatures a species of periodic growth, as G. Saint Hillaire has said, during which the blood flows constantly towards the ovaries and excites an expansive movement.

He then points out the heightening power of domestication, but insists that, even when the periods are rendered more frequent, they still show intermittence, which in woman is monthly. In the lower vertebrata the sexual disturbance is not so conspicuous as in higher creatures. In some mammalia the genital orifices and adjacent parts show conspicuous excitement, often accompanied by sanguineous emissions. The names of Aristotle, Linnaeus, Buffer, Curier, Blumenbach, Saint-Hillaire, and others are quoted in support.

Again, if observation shows that ova are incontestibly produced at fixed epochs in all invertebrate and vertebrate animals, since in them new generations appear constantly after regular and invariable periods, if, I say, that is admitted for all the zoological series, and it cannot be contested as regards mammalia in a wild state, it becomes evident that the aberration observable in these latter that lived in our habitations comes only from the new condition in which they are found; for at-

tentive observation shows us that in them equally there are phases of excitation and that it is during these that ovules are produced and that fecundation is possible. The condition of the human species enters entirely into this category, and if the periods when the reproduction is possible are very frequent in women, that belongs manifestly to the amenities of social life.

In animals the flow of blood is ordinarily less abundant, and the period of excitement returns at longer intervals. Notwithstanding there exist in the domain of mammology species which are nearly as much regular as certain women, and in which the flow appears almost as frequently. Duges and Jourdan also remarked these analogies.

Isidore Geoffrey Saint Hillaire says (Breshet, *Recherches Anatomiques of Physiologiques sur la Gestation des Quadrumanes*, Paris, 1845, p. 4): In monkeys the flow coincides in all the females with a swelling, more or less manifest, of the vulva and environing parts. This swelling, moderate in the females of the apes, is, on the contrary, very considerable in the females of many species of macacus and in all the species of cynocephalus. In all the latter it extends not only to the anus, but beyond, and it is so marked that all the orifice seems as if environed by a large collar. The skin at the same time becomes deeply red. In the mandrill, G. Curier compares, for volume, to a child's head, the unequal red and inflamed looking protuberance which then forms around the anus. The same phenomena, though a little less pronounced, occur in the females of the macacus; and even it often happens in these, for example, and in the females of rhesus and maimons, that the swelling extends to the inferior part of the tail, near the base.

Again Saint-Hillaire (*Historie Naturelle des Mammiferes*, Paris, 1824) says: "The females of all apes, macacus, magots, cynocephalus, and probably of all other kinds of the first tribe, are subject to a flow periodically appearing from month to month. The matters emitted by the vulva are blood and mucosities, sometimes sanguinolent, sometimes white, the flow continuing during six or eight days, and sometimes more. G. Curier fixed even at fifteen days the duration of the flow in a female mandrill which he made the subject of repeated observations."

Curier observed menstruation in carnivora, among others, in the genets; Saint-Hillaire says it is periodical. Haller quotes many authors who thought monkeys, cows, deer and bitches offered evident traces of menstruation. Numann and Rainard made similar observations, while Pouchet had himself observed it in bitches, sows, cats, rabbits, and guinea-pigs, especially in the first. (Mr. Bartlett, the able Superintendent of the Zoological Gardens, tells me that the discharge may be abundant in the bitch, and that the heat is sometimes long sustained in the carnivora). The wild pigeon produces only once or twice a year, while the varieties it has given us through care breed ten times a year, as Aristotle, Buffon and Blumenbach have observed. Euhleman says sheep come to heat every fortnight, sows every fifteen to eighteen days. Kahleis and Numann, that cows come every month or three weeks; Greve, that mares come monthly; and Curier, that buffaloes, zebras and monkeys come also monthly. Courty also recognized the graduated relation of menstruation in the zoological series.

From his observation on sows, Pouchet concludes that the menstrual phenomena ordinarily precede the rupture of the Graafian follicles (page 262): "During menstruation the vagina of the sow offers a rosy tint, and the mucus fluid which it contains is slightly abundant. Microscopical examination showed me that the latter is composed of fragments of epithelium cylindrical and parement, mucus globules and blood corpuscles in small number. * * * The womb before its bifurcation is reddened, and its capillaries are highly injected with blood. * * * The cornua are excessively injected with blood. Their mucosa is considerably thickened and spongy and of a deep red, and, in certain parts the abundance of blood wherewith it is engorged gives it even a violet coloration. * * * Thus then menstruation in the sow is a demonstrated fact. As in the human species there is an emission of blood; but if this is not abundant, it is because this fluid is found in great part poured out in the immense extent of the internal generative apparatus." During the inter-menstrual period the vaginal and mucus membranes are pale. Pouchet says that the appearances are absolutely similar in the rabbit, but that there is even more blood; and his observations upon bitches, cats, and other mammalia were equally confirmatory.

On page 266 Pouchet says: "In a work on the physical and moral system of women Roussel (*Systeme Physique et Moral de la Femme*, Paris, 1813, also edited by Cerise, 1860, Paris), pretends that menstruation is due to civilization. We have expressed nearly the same opinion; only we think that the social state has not determined the essence of the phenomena, but that it has only considerably augmented its frequency in rendering it nearly mensual."

Auber also attributes the existence of the function to social advancement (Raciborski, p. 18). "Velpean (*Tr. Comp. de l'Art des Accouch.*, t. l., p. 126) says that in Lapland and Greenland women are not more often regular than every three months; and Gardien (*Tr. d' Accouch. et de Mal. des Femmes*, t. l., p. 123), pretends that in women in Polar countries the menstrual flow takes place only once, twice or thrice a year." Pouchet therefore ably argues the physiological identity of the function in all the mammalian saries, including woman; he says (p. 227): "Menstruation consists in the appearance of a periodic and temporary excitement in the genital apparatus of woman. This function is declared by any afflux of blood in all the organs that share in it, and by the flow externally of a certain quantity of this fluid. Then it is essentially and ordinarily characterized by a swelling and maturation of one of the Graafian

vesicles and by the emission of the ovule which the latter contains."

[TO BE CONTINUED]

Splenic Hypertrophy in a Mare.

BY G. C. LOWE, M R C.V.S., LONDON.

February 8, last, a brown mare—a heavy vanner, nine to ten years old, in good condition as regards flesh—was brought under our notice We ascertained from the horsekeeper that the mare had been bought in the country nine months previously, and had since then been at regular work almost every day, without appearing to be ill. The only complaint made about her was that she invariably proved sluggish when at work, and was thus a source of annoyance to the carman; she worked in a pair horse van.

We found her suffering from colicky pains, which frequently caused her to cringe and show other signs of uneasiness. The feces were watery, and a good many ordinary round worms were evacuated along with the dung. The mare was slightly feverish, had a dull, drooping expression of eye, and, apart from the recurrence of the cringing pains, showed very little inclination to move. The pulse was full and frequent. After two or three doses of spt. ether. nit. and tinct. opii. during the following twenty-four hours, combined with warm clothing and abstinence from all food except gruel, the pain disappeared, the dung became more solid, and no more worms were passed. The mare, however, remained feverish and dull and disinclined to move, but withal had a vigorous appetite. For a few days she was treated with diffusable stimulants, and allowed oatmeal gruel, steamed hay, carrots, and mashes, in moderation. The fever did not abate, and the temperature varied from 102° to 104°. The pulse continued frequent, full, quick and hard in the nature of its beat, and easily accelerated by the slightest exertion or excitement. The dullness of demeanor continued, and the mare when walked about moved sluggishly and hung her head. In addition, the conjunctival and buccal membranes became rather pale and sickly looking, while effusion began to appear beneath the chest, and the hind legs gradually filled. Nothing abnormal could be detected upon auscultation of the chest, nor did the mare present any symptoms of catarrh; discharge from the nostrils, enlargement of submaxillary glands, and cough, being entirely absent. The respirations also were normal. No sense of pain was evinced upon pressure of the abdomen. The dung continued to be evacuated regularly and to be normal in character. The urine was clear and voided freely, but not abnormally so. The extremities, ears, and surface of body were always warm. As regards her feeding, the mare continued to eat and drink everything that was offered her. As the general debility increased and the fever persisted, quinine was substituted for the diffusable stimulants, about a drachm of the sulphate in a pint of acidulated water being given twice daily. Crushed oats and chaff were also given dry, and in moderate quantity, two or three times a day, in addition to steemed hay, carrots and gruel.

This treatment, in conjunction with a little very gentle exercise in the sunshine when the weather was propitious, was adopted for about a fortnight. But the mare continued to have an average temperature of 103 5° to 104; and the debility became more and more marked, the effusion increasing gradually but persistently, and the membranes becoming very pallid. The pulse continued just as frequent, full, and excitable. The mare's appetite remained just as voracious as at first, but she had fallen away in flesh considerably. About three weeks from the first day's illness the pulse began to feel smaller and the respirations at odd times to be quickened, but no acute symptoms of any kind became manifest. Eventually, on March 2, the mare was destroyed by the desire of the owner.

At the post-mortem examination the blood which poured out from the large vessels appeared quite normal in character; and the effusion under the skin was composed of clear serous fluid and solid exudate intermingled. The heart was of a good size and apparently quite sound. The lungs also appeared sound throughout, with the exception of a portion of the anterior lobe of the right lung, which was consolidated and much colored, and, when cut across at certain spots, presented a peculiar marbled appearance. All the viscera in the abdomen were much blanched. The liver was normal in size and seemed healthy. The kidneys were pale, and watery-looking. The stomach and small intestine presented nothing abnormal in their structure. The large intestine was also normal in structure with the exception of a few hard nodular swellings scattered irregularly in the tissue of the intestinal wall. The spleen, however, and the whole of the abdominal lymphatic glands, presented a remarkable appearance. The spleen was greatly enlarged, weighing nearly twenty-eight pounds and appeared much engorged with blood. Examination of its cut surface showed that the Malpighian bodies were greatly enlarged, each being as large as a boiled barley grain. The consistence of the spleen was not abnormally firm, and its edges were thin. A microscopic examination (made by Professor M'Fadyean) showed that the enlargement of the Malpighian bodies was due to hypertrophy. Every lymphatic gland we could find in the abdomen was enlarged and congested, and the appearance of the highly congested mesenteric glands as they lay in a long chain upon the surface of the blanched colon was very striking. We noticed that the bronchial lymphatic glands in the thorax did not seem to be at all congested. Professor M'Fadyean also examined a drop of blood taken from the splenic vein, and reported that it showed a distinct excess of leucocytes, their proportion being roughly estimated as one to ten red corpuscles.—*Journal of Comparative Pathology and Therapeutics.*

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

XI.—The Essentials of Antisepsis and Asepsis. (Continued).

Dry Pulverulent Dressings.

All modern wound or other surgical dressings have in view one primal, or rather a two-fold object, namely the exclusion of germs or their destruction or inhibition when access has already taken place.

Albuminoid substances, such as the blood, serum and various tissues of the body, will decay or become putrid under certain conditions. The active causes of such decomposition are micro-organisms; for the growth and development of such organisms certain definite conditions, or combinations of conditions, must pre-exist, for micro-organisms are no less amenable to vital and natural laws than the higher and more complex organisms, up to man himself,—as Browning says:

"From life's minute beginnings, up at last
To man, the consummation of His scheme."

Certain conditions must exist or the germ dies. For the growth and development of micro-organic life we may say that at least three conditions must co-exist; these are (*a*) a certain definite temperature, (*b*) the presence of more or less moisture and (*c*) the presence of pabulum. Absence of any one will result in inhibition of vital activity if not in actual death of the germ. In the absence of the two first conditions growth and development are inhibited; absence of the last, or absence of all three conditions induce the ultimate death and destruction of germ life.

As far as temperature is concerned we have previously shown that few if any germs are really actually destroyed by even extreme depression of temperature while extreme elevation invariably effects such result. Indeed exposure for even a few minutes to moist heat at the temperature at which water boils (100° Centigrade or 212° Fahrenheit) will not only destroy almost every known variety of pyogenic and especially pathogenic germ life but their spores as well. The most favorable temperature for their growth is from 95° to 100° Fahrenheit, that is, about the normal bodily temperature. It must be obvious that the application of a sufficient degree of heat to the body for the purpose of effecting sterilization would seriously impair and indeed destroy the vitality of the very tissues to whose normal and physiological development we are endeavoring to contribute. True the germ would be destroyed, but so also would the tissues to whose preservation and conservation our energies were supposed to have been directed. Obviously then neither elevation nor depression of temperature can be made use of in wound treatment, or in the sterilization of any infected area of the human body. Such, however, is splendidly adapted to the disinfection of instruments, bandages, dressings, etc.

As far as the second proposition is concerned, the presence of more or less moisture, this can be somewhat controlled. For this very reason absolutely *dry* operations, as Gerster and other eminent operators agree, are much more rapid in their processes of repair and healing because of the aseptic condition consequent upon such absence of moisture. This is the chief virtue of the galvano-cautery, the thermo cautery, in operative work; that the high degree of heat not only promptly destroys all germs present but also thoroughly dessicates the tissues of the wound with which the knife comes in contact, forming an absolutely dry and impervious eschar beneath which the process of repair proceeds in an almost ideal manner, because of the absence of micro organic interference with such normal process.

Gerster says in his classic work upon "Aseptic and Antiseptic Surgery:" "Small or comparatively small wounds, admitting of an exact coaptation of the deeper as well as their superficial parts by suture, are exquisitely fit for this method of treatment. Plastic operations about the face may serve as a fair type.

"Certain finely powdered substances, as iodoform or subnitrate of bismuth, have the quality of rapidly in-

spissating blood and serum to a dry crust. Accordingly, after the hemorrhage has been controlled and the wound closed by suture, a quantity of the substance chosen is dusted over the sutures. No further dressings are applied. The escaping bloody serum forms a paste with the powder, which by its sterilizing property prevents decomposition, while the paste remains moist. Free access of air will hasten exsiccation; and the dry, hard crust once formed will securely prevent further ingress of dust into the wound. In cases where the powder is washed away by profuse oozing, the dusting has to be repeated every half hour after the operation, until the object—the formation of a dry crust—is accomplished."

Professor Friederich von Esmarch, Professor of Surgery to the University of Kiel, in a copy of his *Handbuch der Kriegchirurgischen Technik* which he recently sent me, mentions iodoform, bismuth subnitrate, naphthalin, zinc oxid, iodol, sozo-iodol, dermatol, aristol, di-iodo-thio-resorcin, sulphaminol and salol among the antiseptic powders for use as dry dressings. Of these Gerster prefers the first two. The chief objections to iodoform are, first, its disgusting, inevitable, persistent and nauseating odor; second, its feeble germicidal activity, possessing none until its decomposition liberates free iodin; third, it produces marked toxic effects in certain persons (elderly persons seem specially predisposed)—these toxic effects it seems to manifest especially upon the central nervous system and therefore its employment should be surrounded by great care and accurate dosage. It is almost indispensable, however, in the treatment of accessible tubercular areas and has, as has been mentioned, given very good results in *septic* wounds. As to the subnitrate of bismuth its chief objection is the comparative weak germicidal power. Broome, Bernays, Mastin, Martin, Senn, Marks, the author himself and a host of others have found a combination of phenol and boric acid to be a superior dry dressing. This combination (a most excellent preparation of which is furnished in Sennine) possesses in a marked degree the superior antiseptic virtues of its constituents—indeed even Lister himself now declares the supremacy of carbolic acid over every other germicide. The pulverulent and non-irritating properties of Sennine give it valuable exsiccating and inspissating powers which are absolutely indispensable in a dry dressing. Its antiseptic qualities give it valuable inhibiting and sterilizing properties; should hypersecretion by any chance supervene it is thus enabled to completely sterilize the morbid discharges which would otherwise form a most fertile and undesirable nidus for micro-organic development. As a well-known authority upon antiseptics and asepsis has said: "Capillary attraction, exerted by a dry absorbent dressing, is perfectly adequate to drain an aseptic wound of its serous discharges and the rapid drying and crusting of these dressings is just the thing we want to seal a sweet wound against the possibility of subsequent infection from without." And just here is where the function, power and advantages of such dressings as Sennine are most desirable; complete sterilization, and the presence of the antiseptic dessicant, absolutely insure against subsequent infection.

We know that the excellent antiseptic value of our highly absorbent dressings depends as much upon their valuable qualities of promoting and hastening rapid evaporation as upon their chemical properties. We have employed exsiccation or dessication as a means of preservation for ages; for centuries men have empirically cured and preserved perishable food products in the same manner and the testimony of experience is sufficient to attest the efficacy of the process. We have discussed in detail the effect of exsiccation upon micro-organisms in a previous paper (Paper VII). It is also interesting to note in this connection that Schlange has shown that cultures, on moist pads of cotton, of the bacillus of green pus were aggressively prolific when evaporation was checked; but such proliferation was immediately stopped upon exposing the pads freely to the air and thus allowing them to become dry through loss of moisture. Moreover, Schimmelbusch distinctly claims, with the best of reasons, that the efficacy of highly absorbing and rapidly drying dressings, *even though containing moderate amounts of schizomycetes*, is far greater than is the case with materials which lack such valuable properties *even though they be faultlessly impregnated.*

We have now reached the consideration of the third condition, namely, the presence of pabulum. Normal healthy tissue is antagonistic to the growth and development of germs; so also are normal healthy secretions. *Ergo*, healthy tissues and secretions do not contain micro-organic pabulum. Normal, healthy intra vascular blood possesses marked germicidal powers, probably due, as Vaughan suggests, to the contained nuclein or nucleins; but when such blood, drawn from the vessels, is allowed to stand it rapidly loses its usual alkaline reaction and becomes acid in character and in reaction upon litmus; concomitant with this loss of alkalinity is its loss of germicidal power, indeed such blood under these conditions is not only devoid of all germicidal power but even affords an excellent culture medium. So also, altered and morbid discharges form good culture media in which micro-organisms develop and flourish because they find ample pabulum therein. To prevent the occurrence of this condition we must either prevent discharge from the wound or else if such occurs prevent its subsequent infection. This may frequently be done by means of absorbent drying powders which inspissate such discharges and keep the wound dry and hence nearly aseptic. The presence of an antiseptic or inhibitory agent in such dressings will prevent the development of micro-organisms altogether. If hypersecretion results, infection is almost certain to occur unless the discharges be thoroughly and efficiently sterilized and antiseptized. The functions of an ideal dressing are two-fold (*a*) to inspissate moderate discharges by absorption and subsequent evaporation of the liquid portion of such discharge and thus present a dry field in

which micro-organic development is inhibited, or (*b*) when such discharge becomes profuse to prevent infection by charging such secretions with antiseptics, or if infection has supervened to effect sterilization by the same agency. Many dry dressings possess only the first quality, the best possess the second as well—among these we might mention salol, naphthol, Sennine, and to a certain extent, iodoform. These, with the possible exception of Sennine, have a comparatively low solubility in the wound discharges and hence possess very limited powers of penetration of wound recesses. Sennine by virtue of its greater solubility has powers which are more marked in this respect and hence it may be classed among the very best of all dry dressings for all purposes. The known hygroscopic properties of carbolic acid give this product of carbolic and boracic acid the inspissating power which is so desirable in a dry dressing; being a powder its power of absorption is increased mechanically to some extent by virtue of a modified form of capillary attraction. To this is added the marked antiseptic, bland and non irritating properties of boric acid and the marked germicidal power of carbolic acid which has been almost entirely robbed, by the combination, of its usual irritating qualities. Hence in this substance we have the two-fold function of an ideal antiseptic dry dressing fulfilled in a manner almost ideal in itself. These facts are fully borne out by a comparatively extended clinical experience, in addition to the strong scientific foundation upon which they are reared.

The present is distinctively an age of dry dressings and from the present outlook the future is to be more so, if not, indeed, exclusively an age of dry dressings. In order to gather definite information upon this point the writer has for the past six months or more been in communication with the leading surgeons of the world; from this correspondence he has gleaned a symposium of their respective opinions upon the value of dry dressings in general. In each case the surgeon expressed the opinion knowing that it was to be used as his own expression upon the subject, for so he was informed.

Thomas Annandale, Regius Professor of Clinical Surgery, University of Edinburgh: "I prefer dry dressings in all cases except where owing to large cavities and other conditions drainage is required."

Thomas Bryant, London, England: "I always use dry absorbent dressings for fresh wounds. * * * I finally dust the wound before closing it, with a powder composed of one part of iodol and four parts of powdered boracic acid."

Victor Horsley, London, England: "I use dry dressings wherever possible and avoid hemorrhage as much as possible."

W. W. Keen, Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to Saint Agnes' Hospital, Philadelphia, Pa: "I almost always use dry dressings, antiseptic or sterilized, rarely wet."

Nicholas Senn, Professor of the Principles of Surgery and Clinical Surgery, Rush Medical College, Chicago; Surgeon-General, Illinois National Guard; Surgeon in-Chief, Saint Joseph's Hospital, Chicago; Attending Surgeon, Presbyterian Hospital, Chicago, Ill.: "I prefer dry dressings in all operations for aseptic conditions; in all other cases I rely on solutions of carbolic acid or sublimate. In operations for open tubercular lesions I give iodine solution the preference."

Roswell Park, Professor of Surgery to the Medical Department of the University of Buffalo; Surgeon to the Buffalo General Hospital; Consulting Surgeon to the Fitch Accident Hospital: "I would say that more and more as the months go by I am in favor of dry operating and dry surgical dressings, and esteem that operation to be the nearest approach to the ideal in which there is the least possible amount of fluid of any kind present, either blood or antiseptic solution. In fact I do not even use hydrogen peroxide now as I used it once."

William Hunt, Surgeon to the Pennsylvania Hospital, Philadelphia: "I have been an earnest advocate of dry dressings almost since I entered the profession. One of my earliest papers was in advocacy of them. I have never had any occasion to recede from such recommendations. Thanking you for the opportunity of answering queries like yours, I am very truly yours," etc.

C. H. Mastin, Mobile, Alabama: "I use dry dressings in small wounds and in fact in *all wounds* where I can get exact coaptation. Here I use indifferently Bismuth, Aristol and sometimes Iodoform, but its odor is objectionable, and I do not think it possesses any advantage over Aristol, Europhen or Boric Acid. I might add I use more Boracic Acid for small wounds, than anything else. Where I am unable to get *exact* coaptation, I am forced sometimes to use moist dressings. As a rule I prefer *dry* dressing, first covering with the selected articles (Boric Acid, Bismuth, Aristol or such articles as I prefer at the time), then several folds of gauze, (Iodoform, Mercuric, Boric, Eucalyptus or simple dry gauze) cotton, gauze and then bandage."

D. W. Yandell, Professor of the Principles of Surgery and Clinical Surgery to the Medical Department of the University of Louisville, Kentucky: "I like dry surgical dressings where I can use them on perfectly dry surfaces which I can keep dry by complete drainage."

Theo. A. McGraw, Professor of Surgery to the Detroit Medical College; Surgeon to Saint Mary's Hospital; Surgeon to the Harper Hospital, Detroit, Michigan: "I aim to keep my wounds aseptic and am fond of the dry method of operating."

Augustus C. Bernays, St. Louis Missouri: "I consider that the dry treatment of wounds is the ideal method in all cases where an aseptic operation can be performed, where there is no sepsis before the operation and where there is no infection during the operation.

"Recently an excellent powder for the dry treatment of wounds has been put before the profession in a most convenient form under the name of 'Sennine.'"

Frederic H. Gerrish, Surgical Instructor to the Port-

land School of Medicine; Professor of Anatomy to the Medical Department of Bowdoin College: "I use carbolic solution for the instruments and sublimate solutions for hands and the field of operation, first scrubbing these with hot water and soap Dry iodoform on the wound, and above this a voluminous dressing of sublimate gauze have served me so well for so many years that I feel little disposition to abandon them for any new things which I have yet seen."

E. H. Bradford, Instructor in Clinical Surgery to Harvard Medical School; Visiting Surgeon to the Boston City, Children's and Samaritan Hospitals: "I prefer dry dressings in aseptic surgery in all cases where the wound is aseptic."

George Wiley Broome, Professor of Surgery and Dean of the Woman's Medical College, St. Louis; Surgeon to the Woman's Hospital, St. Louis. In a recent letter to the writer Doctor Broome said:

"Any physician may see and appreciate the great value of dry dressings in surgical cases. I may go a little further and venture the prediction that the scientific surgery of the near future will not even include the now widely used irrigating vessels in the instrumentarium of the surgeon at all. Instead of irrigations the asepticity of a wound will be secured and maintained by dry sponging. In suppurating cases asepsis will be established by destroying the medium in which the pyogenic micro-organisms grow and multiply, by the same means. The availability of any antiseptic is enhanced in proportion to the degree of its inhibitory power. The inhibitory function can be performed perfectly in a dessicated field only. Dessication can only be secured by means of dry, together with hygroscopic dressings. A suppurative inflammation with the presence of pus, wherever found in the human body, must be treated by dry sponging, not by irrigation, so that it will only be a little while until the application of powders possessing such power will be a universal practice among progressive surgeons.

"Latterly I have been using 'Sennine' to dust over laparotomy wounds *and have found it superior in many essential particulars to other antiseptic powders.*"

In a recent paper entitled "Some Fresh Points in the Technique of Celiotomy, Extra Peritoneal Abdominal Hysterectomy and Ideal Myomectomy," read before the St. Louis Medical Society and published, April 7, 1894, in the WEEKLY MEDICAL REVIEW of St. Louis, he says further:

"I am strongly partial to dry dressing and dry sponging. I believe that one of the greatest achievements of scientific surgery belongs to the future in this particular direction. When practical surgeons become more familiar with the life, habits, growth and development of the pyogenic microbes, then they will learn to appreciate more fully the importance of an early and absolute abandonment of the practice of irrigation and I furthermore wish to make this declaration now: that ideal surgery can, in the near future, contemplate the act of the irrigation of wounds and cavities only in the light of a revolt against the science of regeneration. I mean this statement for a sweeping one covering all cases, and especially pus cases, those very ones that are looked upon to-day as presenting the ideal condition for irrigation, dry sponging is the fresh point therefore that I wish to show, whether it be for a pyocelia or a suppurative otitis media, I care not which. Dry sponging and dry dressing will be the practice of the future. Dry sponging is more rational in every respect than the irrigating method or wet sponging. Dry dressings by means of powders have proven more satisfactory because of their inhibitory power.

"The relative value of these powders is a subject I do not care to discuss further than to mention the very great value of iodoform in all tubercular processes and boracic acid and phenol in combination as an ideal antiseptic and dessicant.

"You know that iodoform was first introduced to the profession by Mosetig Moorhof in the year 1880 and is composed of alcohol, iodine, carbonate of potash and water and its real merit, as an inhibitory agent depends upon its slow decomposition and the liberation of iodine. The latter acting in two different ways. The one is the antiseptic property of iodine destroying germ life, the other is the chemical property of iodine to eliminate the toxines rendering them insoluble and therefore unabsorbable and thus innocuous to the system. The hygroscopicity of the impalpable powder of boracic acid is too widely known to require explanation, and since the father of antiseptic surgery still clings to the use of carbolic acid I need scarcely consume your time in commending the inestimable value of a combination in powder form of boracic acid and phenol. These have been happily incorporated under the name of 'Sennine' and I know of nothing superior as a topical dressing to prevent parasitism and thus secure the early and rapid healing of a surgical wound."

[TO BE CONTINUED]

Osteomyelitis.

BY B. F. JONES, M.D, KEARNEY, NEB.

EXCISION INFERIOR MAXILLA.

Eva K., aged 23, married, summoned me to her house during June, 1891. She was greatly prostrated; pulse, 120, temperature 103°, and suffering great pain in stomach and left side of head and neck. The left inferior maxilla was greatly enlarged and thickened, tongue coated, breath extremely fetid; complete anorexia.

She gave the following history: Six years previous she noticed a small growth upon the left jaw near the first molar tooth which grew steadily for a year, when she subjected herself to an operation by a local "surgeon" but the operation was abandoned during anesthesia fearing a fatal termination. This so thoroughly frightened her that she never sought surgical treatment again.

During this interval up to the time I saw her the dis-

annotation on Hebra's and Kaposi's work on the bacteriology of warts: "Cultures of microbes of warts on agar-agar have given greenish yellow masses. The warts obtained by inoculation have not yet been examined under the microscope, but the examination of preparations makes it even now probable that these warts really represent common warts. With these cultures ten inoculations were made on four animals, and two yielded satisfactory results. About 15 days after the inoculation, warty excrescences were discovered of about the size of a grain of hempseed, somewhat flattened, and brownish in color."

The value of inoculations made with cultures is above all criticism, but Dr. Variot thinks that those made directly with the lymph taken from the wart are of equal value.

Microbes inoculated in the epidermic layer multiply slowly, and in some instances more than two months had passed before an appreciable change of the epidermic layers and a hypertrophic reaction among the papillæ had been observed. Whether the development of warts experimentally inoculated is also always slow, the author says it is impossible to say, judging from the single instance which he has related. If similar experiments have already been made by other physicians, the process of the evolution of warts can be compared and certain conclusions formulated. It is certainly an established fact that warts are self-inoculable and capable of inoculation from one person to another.

The prophylactic measures which the author had prescribed, in the *Journal de clinique et de therapeutique infantiles* for December, 1893, for avoiding the propagation and spread of warts should be strictly observed.

It is necessary, he says, to watch warty children carefully, to see that they do not rub or scratch the skin on the face or on the body with their hands, and in school children should avoid coming in contact with those who have warts.—New York *Med. Journ.*

OBSTETRICS AND GYNECOLOGY.

A Case of Difficult Labor Occasioned by an Enormous Distention of the Fetal Bladder.—Schwyzer (*Archiv f. Gynecologie; Annals of Gyn. and Paed.*) describes a case of difficult labor occasioned by great distention of the urinary bladder of the child, which occurred in the Turicher Frauenklinik, and refers to thirteen similar in the literature. In Schwyzer's case labor could not take place spontaneously, from great distention of the abdomen. The head entered the pelvic canal and then ceased to descend. Upon traction with the forceps the head was torn off. The abdomen was then punctured and six litres of fluid drawn off, when the body was born with ease. From the reported cases the following is noted: The heart sounds are very indistinct or not at all to be heard; usually there is an absence of the rectum, the colon opens into the bladder, the urethra is closed, and the ureters and pelvis of the kidney are dilated; in female children there may be a dilatation of Muller's ducts, *i. e.*, the uterus and tubes, with urine.

Laparotomy for Extra-Uterine Pregnancy.—Dr. Smolsky (*La Tribune Medicale; Annals of Gyn. and Paed.*). Nearly all surgeons are unanimous for performing laparotomy for extra-uterine pregnancy. The diagnosis is most difficult, if not impossible, before rupture of the fetal cyst; consequently, when this occurs, the surgeon has an intra abdominal hemorrhage to deal with where no hesitation is possible. This is the usual course of events. The operation is performed to stop the acute anemia, which would soon be fatal. But sometimes the hemorrhage is not violent and the focus becomes encysted, forming a retro-uterine hematocele. Should laparotomy be done when this is the case? Dr. Smolsky has observed a case of this kind in which spontaneous recovery took place, and thinks that the operation is not necessary. The author gives the following propositions, based on his own case and others derived from medical literature:

1. Laparotomy is indicated in tubal pregnancy which is diagnosed before rupture of the tube.

2. It should be performed in recent rupture with intra abdominal hemorrhage during the first months of an extra uterine pregnancy.

3. A tubal pregnancy terminating in a retro uterine hematocele will probably end in spontaneous recovery. Laparotomy should be resorted to only when the life of the patient is in danger or if the tumor should suppurate; but even then an opening made in the retro-uterine cul-de-sac is to be preferred to laparotomy.

Typhoid Fever During Pregnancy.—Dr. Emile Duhaut (*Journal de Medecine et de Chirurgie; Annals of Gyn. and Paed.*) has collected many documents concerning the frequency of typhoid during pregnancy, its gravity, and the results obtained by the cold-bath treatment. A most remarkable fact, brought out by the number of cases in this *memoire*, is that typhoid fever is infrequent in the pregnant female. Of 1046 cases of typhoid treated by different Lyons physicians only seven were pregnant women. This extreme rarity cannot for the time being be explained, and must be accepted as a simple fact. On the other hand, it appears that the disease attacks women during the first months of pregnancy rather than the last, which, according to Gusserow, might be explained by the fact that there is less danger of exposure to typhoid during the latter part of pregnancy. When, however, typhoid does occur during pregnancy it may be said in a general way that it is in no way influenced by this condition; but in more than half of the cases pregnancy is interrupted, abortion being more frequent than premature delivery. Interruption of pregnancy takes place ordinarily during the second week of the disease. Abortion or premature labor, as the case may be, may darken the prognosis,

from the fact that typhoid facilitates the development of puerperal infection. As to the treatment of typhoid fever during pregnancy by cold baths, Dr. Duhaut has brought together fourteen cases where this method was employed, with the result of saving all the mothers and only three abortions occurring. It appears from this that this treatment is good, and the results can be theoretically explained. The two great causes of abortion in typhoid are maternal hyperthermia and infection of the fetus. Now, the cold bath acts by keeping the maternal organism in a state of relative apyrexia during all the febrile period; it can transform a high fever where abortion would be nearly impossible to prevent into a less severe fever with moderate temperature when abortion is more rarely observed. Diuresis, one of the most remarkable effects of the cold bath, provokes rapid elimination of the bacilli and their toxines, lessening the chance of fetal infection. The com clusion of these facts is that, contrary to what might be supposed, the cold bath is without danger in these cases. It would appear that this sudden cooling, exercising a vaso-constriction of the peripheric arteries, consequently pushing the blood into the deeper organs, would cause congestion of the uterus, with its attending placental hemorrhages; but clinical observation shows that internal congestions are not produced by the cold bath, and the number of complications may perhaps be less.

NOTES AND ITEMS

B. F. Jones, M.D., of Kearney, has removed to Ashland, Neb.

The Medical Publishers will hold their meeting at Hot Springs, Va., Monday and Tuesday, August 13 and 14, instead of August 14 and 15, as previously announced.

A New Journal.—The *Railway Surgeon* made its first appearance under the date of June 5, 1894. It is the organ of the National Association of Railway Surgeons, taking the place of the *Railway Age.*

The Cholera.—Asiatic cholera is reported to be spreading in Russia with a decided increase in the number of cases and in fatality in St. Petersburg. Elsewhere on the Continent the disease attracts little general attention although sanitary authorities are exceedingly vigilant. On July 6, four more cases of the disease developed among the passengers on an infected steamer recently arrived from St. Petersburg at Stockholm, and nineteen possengers had been removed to quarantine from another steamer just arrived from the same port.—*Jour. of the Amer. Med. Ass'n.*

The Plague.—Writing from Peking, June 20, Mr. Frank G. Carpenter gives the first coherent account of the origin and spread of the bubonic plague in China. Previous reports have attributed its spread from Hong Kong to Canton, at which latter place it was said to have made its appearance about the end of April. Mr. Carpenter asserts that the disease came originally from the interior and reached Canton during the last week of February where it speedily caused an average of 200 deaths a day. "This average steadily increased until in March and April it was 500 a day and the mortality at the present time (June 20) is very large." The disease made its appearance in Hong Kong in April, carried thither persumably by the fleeing Cantoneese.

Jenner's Antecessor.—His name is not known; but as Jenner's centennial approaches it was to be expected that some one would discover that somebody else had discovered vaccination long before Hunter's pupil inoculated James Phipps with the cowpox in 1796. At a recent meeting of the Epidemiological Society of London, Dr. Pringle called attention to the following passage in an ancient Hindu work as evidence that vaccination was practiced in India centuries before the birth of Edward Jenner: "The smallpox produced from the udder of the cow will be of the same mild nature as the original disease; the pock shall be of good color, filled with clear liquid, and surrounded by a circle of red. There will be slight fever for one, two or three days, and no fear need afterward be entertained of smallpox so long as life endures."

An Interesting Law Case.—An action for damages has just been tried in one of the Paris courts which perhaps is unique of its kind. A gentleman suffering from anemia of a very hopeless type was advised by his medical attendants to submit to the operation of transfusion; and having consented, his gardener volunteered to supply the blood. Consequently transfusion was performed, and to the great benefit of the patient, who recovered completely after a short time. However, some time afterward the gardener fell ill, and attributed his condition to the sacrifice he made for his employer. He accordingly brought an action against him for damages, claiming the large sum of 60,000 francs, or nearly two thousand five hundred pounds. The court ordered an independent medical examination of the case; but in the meantime the man died, that is to say, two years and three months after the operation. The autopsy proved that the gardener had succumbed to a carcinoma of the stomach, and the doctors gave their opinion that the malady was not affected by the transfusion. However, the widow contined the suit, and last week the court dismissed the case with costs against the plaintiff.—*Medical Press.*

St. Louis College of Physicians and Surgeons.—The faculty of the St. Louis College of Physicians and Surgeons has been re-organized as follows:

hanging out of the mouth to prevent hemorrhage. The lines of the incisions were sprinkled with salol covered with a film of absorbent cotton, and held firmly down with flexible collodion. The operation consumed one hour with little or no hemorrhage. The patient was allowed to recover from the anesthetic. Except slight nausea, no untoward symptoms presented. On the third day the pledgets of cotton were removed. A solution of listerine 1 to 5 was given as mouth wash. On the tenth day the sutures and pins were removed. Primary union was obtained the entire length of both wounds, greatly to my surprise and satisfaction. Microscopical examination revealed a benign growth.

Fig. 2 shows the degree of deformity six weeks after operation. He has since done well showing no recurrence two years after.

The Growth of the Diphtheria Microbe.—The fact that many health authorities officially recognize true diphtheria only when the growths contain the Klebs-Loffler bacillus has brought to light a lack of uniformity in the growth of this microbe. Dr. E. Klein writes in the *Quarterly Jour. of Micro. Sci* that in the diphtheritic membrane, in which the progress of the disease is still active, the diphtheria bacilli abound, not only in the characteristic form, but also with the protoplasm segregated into spherical, cubical, or cylindrical particles, with a knob-like or club shaped enlargement of one or both ends, sometimes of great size and containing vacuoles. After being from 24 to 36 hours in agar culture, when the growth is in its initial and most active phase, large numbers of the bacilli occur which are shorter or longer threads with marked segregation of the protoplasm and with terminal knobs. A subcutaneous injection of a virulent culture of the Bacillus diphtheriæ into a cow produced a deep necrotic tumor containing connected masses or clumps in the growing margins of which Dr. Klein noticed the diphtheritic bacilli appearing in the form of threads with spherical or oval swellings and conspicuous terminal knobs strikingly resembling the ends of growing hyphæ. The subjacent muscular fibers were being gradually destroyed by the growth of these threads into their substance. In sections of the tumor, stained with a mixture of eosin and methyl blue, the growing threads are blue, contrasting with the reddened muscular substance, and the appearance is convincing that the threads are forms of active growth and not of involution. Dr. Klein has isolated by culture the diphtheria bacillus from the milk of cows successfully inoculated with this microbe, and in the gelatin culture the young colonies were almost entirely made up of thread-like forms with terminal swellings. Though the Klebs-Loffler bacillus under many conditions conforms with what corresponds to a typical bacillus, these threads, with the local accumulation of their substance, and with the terminal knob-like or club-shaped enlargement of their protoplasm, do not harmonize with the fundamental character of a bacillus, but rather suggest a close alliance with the form of a mycelial fungus.

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Physicians' Mistakes and Low Fees.

The saying "one learns more by his mistakes than by his successes" is pre-eminently applicable to the calling of the physician. How many successful physicians can say that they have not made many mistakes which might have been avoided if they had observed more closely or if they had more thoroughly inquired into the history of the case. In conjunction with a correct observation the physician must possess logical judgment in order to make the proper application of what he has observed. Correct observation combined with logical reasoning are the main conditions upon which a correct diagnosis depends. Some men possess logical judgment, but lack acute observation, while others are excellent observers, but their reasoning powers are of a more inferior character. In order to think logically a thorough general as well as medical education is of great value and this seems to be one reason why men who have had a good college education before taking up the study of medicine are, on an average, more successful than their less fortunate competitors. On the other hand we think that everybody has come in contact with erudite minds who to a great extent were lacking in the power of close observation.

Rational medicine has fortunately divested itself of dogmas and speculative philosophy and is now based upon what we can perceive with our organs of special sense, aided by instruments of precision, as well as upon clinical and laboratory observation, so that in some of its branches it has almost become an exact science. Nevertheless mistakes are in many instances inevitable. Not the unavoidable mistakes, however, but the avoidable ones are the most mortifying to the physician and these are usually due to incorrect or superficial observation. According to Sir William Jenner more mistakes are made by not looking than by not knowing, which reminds us of a busy practitioner of this city who was called to a patient that had fallen down a flight of stairs and received many bruises. Without taking the time to inquire into the history of the case the physician made the diagnosis of rheumatism and, of course, was promptly discharged. There can be no doubt that a bruised joint may at times look very similar to a rheumatic arthritis and the differential diagnosis may only be possible by taking into consideration the history of the case. How many fractures and dislocations have been overlooked by the want of proper care, by competent practitioners who know, but do not look.

The following case, related in the *British Medical Journal* by W. B. Gowers, is of much interest:

"A skilled physician gave orders to his house-physician that a surgeon should be called in to tap a chest, one side of which was full of fluid. When the surgeon came he took notice of the chest before plunging in his trocar, and, being a man of a thoroughly scientific mind and used to observation, he was struck by the fact that there was no enlargement of the chest. Although he was a surgeon, he percussed carefully (according to Dr. Gowers it must be unusual for English surgeons to percuss carefully), and found that every other sign of pleural effusion was present except enlargement of the side. He declined to tap. A little later the patient died, and the lung was found to be a solid mass of cancer."

Most mistakes in consequence of incorrect observation are due to a hurried examination by overworked physicians and they furnish a strong argument against low fees; for the doctors with low fees are principally the ones that are overworked in order to make up for what they lose by small charges.

The Bacterium Coli Commune a Cause of Appendicitis.

G. Ekehorn (*Lakareforenings Forhandlingar; Canadian Practitioner*) gives the following summary of his investigations. The primary changes in appendicitis—the catarrh and subsequent thickening of the mucous membrane and of the walls of the appendix—are the same in degree and frequency, whether fecal matter be present or not; they are not, therefore, dependent upon the latter, and we cannot with reason infer that the presence or absence of fecal matter has any causal relation with them from our present knowledge. If we admit that virulent bacteria may, after gaining entrance within the processus vermiformis, induce these primary changes and cause a catarrhal inflammation with intense swelling, edema and infiltration of the appendical wall, it is strictly in accordance with our experience of their behavior in other parts of the human organism. The correctness of this supposition, which may in the near future be verified by experimental evidence, has not as yet been proven. In an appendix thus pathologically affected fecal matter may, through its presence, acquire grave secondary importance as touching the course of the appendicitis, partly through its pressure upon the edematous, infiltrated wall, in this way becoming a secondary cause of ulceration, gangrene and perforation, and partly through diminishing the lumen of the appendix. In consequence of such swelling of the appendical wall, a narrowing is produced at each transverse flexure of the appendix. The stenosis obtains a secondary significance, analogous to that of the fecal matter. The author seldom found pathogenic bacteria, in great numbers, in the colon. The processus vermiformis may be regarded as predisposed to infection. The bacteria easily find in it an appropriate medium for their development and for the exercise of their pathogenic functions. As the various pathogenic bacteria differ as to their effects, the appendicitis will present itself under different forms. It is evident that tuberculosis and actinomycosis of the appendix, not infrequently observed, differ entirely from ordinary appendicitis. The pathogenic bacterium most frequently found in the colon is the most common cause of appendicitis. This is the bacterium coli commune (Escherich). This bacterium may be pathogenic for man and become virulent to a high degree; it is pathogenic for guinea-pigs and ather animals used for experimental purposes. The bacterium coli commune was present in pure culture in the contents of the processus vermiformis, in a chronic catarrhal appendicitis which was in the intermediate stage of calm, in an exacerbation of a chronic catarrhal appendicitis and in an acute gangrenous appendicitis. It was observed, always in pure culture, in the peritoneal exudation after a perforating appendicitis, and in the pus from an intraperitoneal pelvic abscess after perforating appendicitis. The bacteria of the colon from a chronic catarrhal appendicitis, that was, for the time being, in a state of calm, appeared to be less virulent than the bacteria from a developing or an acute appendicitis, although they were very highly virulent for guinea pigs, which is analogous to that which has been found true in regard to the bacterium coli in normal feces, on the one hand, and the alvine discharges of diarrhea and enteritis, on the other. This, to the author, seems to prove, with the highest probability, that it has had an important role to act, and has not been present as a passive element. According to the author, it may be presumed, almost to a certainty, that bacteria are the principal disturbing factors in the

acute stage of appendicitis, the fecal matter of the dilatation through retarded secretions being only subordinate factors. In all probability the primary changes in appendicitis (catarrh and the thickening of the wall) are induced by the bacteria.

MEDICAL SOCIETIES

American Electro-Therapeutic Association.—The fourth annual meeting of the American Electro-Therapeutic Association will be held in New York, September 25, 26, and 27, at the New York Academy of Medicine. Members of the medical profession are cordially invited to attend.

American Public Health Association.—The twenty-second annual meeting of the American Public Health Association will be held at Montreal, Canada, September 25–28, 1894. The following topics have been selected for consideration at this meeting: The Pollution of Water Supplies; the Disposal of Garbage and Refuse; Animal Diseases and Animal Food; the Nomenclature of Diseases and Forms of Statistics; Protective Inoculations in Infectious Diseases; National Health Legislation; the Cause and Prevention of Diphtheria; Causes and Prevention of Infant Mortality; the Restriction and Prevention of Fuberculosis; Car Sanitation; the Prevention of the Spread of Yellow Fever. Upon all of these subjects special committees have been appointed; and all papers thereon should be presented to the appropriate committee in season to be incorporated as a part of the report of the committee, if deemed advisable. The Executive Committee announces the following additional subjects upon which papers are invited: On the Education of the Young in the Principles of Hygiene; Private Destruction of Household Garbage and Refuse; Disinfection of Dwellings after Infectious Diseases; Inspection of School Children with Reference to the Eyesight.

American Academy of Medicine.—The nineteenth annual meeting of the American Academy of Medicine will be held at the "Waumbek," Jefferson, N. H., on Wednesday and Thursday, August 29 and 30, 1894. The greater part of the time is to be devoted to the discussion of certain problems relating to the Medico-Social Relations of the Medical Profession to the "Dependent Classes." The following papers may be expected:

"The Retrogressives: What Produces Them; Classification." Bayard Holmes, Chicago, Ill.

"Importance of the Study of the Subject to the Profession." Charles McIntire, Easton, Pa.

"The Provident Dispensary in England." H. Webster Jones, London, England.

Title to be announced. J. A. Spalding, Portland, Me.

"Assistance and Care of the Blind." Charles A. Oliver, Philadelphia.

"Prevention of Blindness." Benjamin Lee, Philadelphia.

"Present Status of Legislation for the Prevention of Blindness from Infantile Ophthalmia." Lucien Howe, Buffalo.

"Senile Dementia and Testamentary Capacity." J. N. Whittaker, Cincinnati.

Title to be announced. Gershom H. Hill, Independence, Iowa.

"What Agencies Conspire to Check Development in the Minds of Children?" J. Madison Taylor, Philadelphia.

"The Medical Service of the U. S. Pension Bureau." P. S. Conner, Cincinnati.

"Physical Training for Delinquents." Helen C. Putnam, Providence, R. I.

"Government Commission Instead of State License." J. D. Kelly, New Haven, Conn.

"The Relation of Food Adulterations to the Dependent Classes." Henry Leffmann, Philadelphia.

Title to be announced. G. M. Gould, Philadelphia. President's Address.

Title to be announced. G. M. Gerrish, Portland, Me.

Several additional papers have been provisionally promised; if they can be read they will appear in the completed program. Arrangements have been made for a special excursion from New York and Boston and return at reduced rates. A choice is offered of an eleven days, excursion, including most of the expenses, or of returning immediately at the close of the meeting, and is open to any one desirous of attending the meeting, whether members of the Academy or not. Any additional information about the meeting or the excursion may be obtained from Charles McIntire, Sec'y, Easton Pa.

ABSTRACTS

MEDICINE.

The Lettsomian Lectures on Peritonitis. In introducing his course of Lettsomian lectures, Mr. Frederick Treves justly comments upon the terrible prominence occupied by peritonitis in our mortality records. This fact, together with the existing diversity of opinion concerning the nature and treatment of this affection, makes the selection at this time a happy one; and, although these cannot be definitely settled at present, a long stride has been taken toward the scientific study of the subject. The originality of thought which

is characteristic of the author is very apparent in these lectures (*British Medical Journal; Amer. Jour. of the Med. Sci.*), and he proves himself familiar with the most modern advances in pathology.

At the outset the commonly accepted view of the inflammatory process is rejected. It is shown by illustrative cases and rational deductions that inflammationis a conservative process. The inflammation that surrounds an infected wound or a tuberculous area is a wise provision of nature to check the invasion of the deadly microorganisms. It may be assumed, the author states, that if the process of inflammation was to absolutely disappear from the human body, the race would in a short time become extinct. It is patent, of course, that inflammation may be excessive, that it may fail in its purpose, and that the process frequently needs the controlling influence of surgical or therapeutic measures. What has been thus stated in regard to inflammation applies with equal force in inflammations of the peritoneum.

The most common symptoms in cases of fatal peritonitis are those of poisoning and not of inflammation, and the fatal issue is the result of toxemia rather than inflammation of the peritoneum.

In the most rapidly fatal cases of peritonitis, postmortem examination frequently shows the most insigni ficant changes, while those cases in which there is frank suppuration are often the most favorable.

The pronounced differences in the phenomena which attend inflammations of the peritoneum and of other serous membranes, is dwelt upon at considerable length.

It is pointed out that the peritoneal cavity does not exist in health, but in performing celiotomy air enters, the organs recede, and a cavity is then manifest. It is suggested that this disturbance of pressure relations must affect the sensitive tissues and thin-walled blood-vessels within the abdomen. This may explain either wholly or in part, the remarkable improvement which has frequently followed exploratory celiotomy. A large number of such cases have been collected by J. William White ("The Curative Effect of Operatians *per se*," *Annals of Surgery*, August and September, 1891).

Many other interesting peculiarities of the peritoneum are described, but for want of space must be passed over here.

The etiology of peritonitis has been much simplified by recent bacteriology. It is stated that peritonitis depends almost entirely, if not entirely, upon infective processes, while the existence of non-infective peritonitis is becoming rapidly more and more dubious. Usually the process is that described as continuity infection, by which is meant extension of the disease from some adjacent organ. The following classification is offered as expressing our present knowledge of the subject:

1. Peritonitis due to infection from the intestine.
2. Peritonitis due to infection from without.
3. Peritonitis due to the pneumococcus.
4. Tuberculous peritonitis.
5. Peritonitis of a doubtful nature.

The symptoms of peritonitis are so familiar to every physician that only special features are discussed. Want of space forbids a discussion of these. Two points of especial importance, however, demand notice. One is that vomiting, if persistent, even though slight, is of grave import, and the other refers to the influence of constipation in peritonitis folllowing appendicitis. Mr. Treves' statistics show that the prognosis is better in those cases in which free bowel motions occurred.

To the physician the most important feature is that which refers to the treatment, and this part of the subject has therefore been fully made use of in this review.

Rest should be absolute; the knees may be flexed over a pillow; the chest and arm should be protected by a woolen jacket, as it is impossible to keep the patient covered on account of the extreme restlessness.

Feeding.—The rule should be to give as little nourishment as possible by the mouth. Both absolute prohibition and reckless intemperance in the use of ice and the various liquid substances should be guarded against. Nourishment is to be provided by rectal injections of small quantities of peptonized liquids

Opium.—The advice of the author is distinct upon this point. The rule should be to get along with as little as possible in the acute forms. Morphine, hypodermatically, is absolutely essential, but as a routine treatment it is objectionable. It masks the symptoms, hinders the natural process of cure, and hampers treatment. The indication for its use is actual pain.

Aperients.—By aperients is meant those means employed for the purpose of soliciting the action of the bowels, whether this be the administration of drugs or the employment of enemata. The value of aperients in peritonitis is a subject upon which diametrically opposite views are held by the profession. According to Mr. Treves they can never form a part of the routine treatment. In the first place, in many of the most urgent cases they fail entirely to act, and in the event of success it is stated that the treatment would probably not influence favorably the prognosis. The fatal poison is circulating in the patient's system and beyond the reach of purgative measures. The fact that the alimentary tract contains poisonous matter is not overlooked, and to a certain extent aperients may assist in the elimination of this. Some disturbance of the bowel wall is needed, however, to render the poisonous contents of the intestine acutely poisonous and to favor its introduction into the system.

In the conditions, however, which tend to develop peritonitis, the early employment of aperients is frequently of the greatest value. Such are perityphlitis and pseudo-ileus, or the intestinal paralysis sometimes following abdominal operations. The value of an aperient before an operation must have been observed by all surgeons of experience in this line of work. In fully established peritonitis and in the septic form of the disease no benefit can be expected from the use of aperients.

Blood Letting.—This measure is recommended partic-

ularly in localized peritonitis in a robust person. In perityphlitis the effect of the application of half a dozen leeches is often magical. No good results seem to have followed bleeding in general peritonitis.

Operative Measures.—These include incision and drainage with or without irrigation. This treatment is separately considered in its application to the two distinct classes of cases of peritonitis. In one there is a well-marked, limited inflammation with pronounced local symptoms, and with the formation of pus, in greater or less amount, the exudation, however, being limited. In the other class the inflammation is diffuse, the constitutional symptoms predominate, the changes in the peritoneum which are apparent are slight, and bear no relation to the overwhelming character of the general disturbance. Cases coming under the first class are such as those complicating appendicitis, the various forms of pelvic peritonitis, and the subphrenic inflammation, and those cases following injury or perforation that remain localized. The second form includes the general peritonitis following perforation, strangulated hernia, puerperal peritonitis, and the cases of genuine inflammation following upon abdominal operations.

In the first series, operation is comparable to the evacuation of a large abscess, while incision and irrigation in the second class has in view the same object as washing out of the stomach after an active poison has been ingested. Of the operative treatment of suppurative peritonitis, especially if localized, the past records show scores of successes. Modern surgery, the author tells us, can only lay claim to greater boldness, increased frequency of operation and less delay. Doubt is expressed, on the other hand, if a single life has been saved by operation in a case of general peritoneal toxemia, exception being made of course of tuberculous peritonitis.

Regarding operations the following are among the suggestions offered: The usual measures for securing surgical cleanliness. In localized purulent peritonitis the incision should be made by the most direct route. After the pus has been evacuated a fenestrated rubber tube is introduced and an absorbing dressing applied. Squeezing or curetting of the cavity is objected to as being productive of no good, while harm may follow. After twenty-four or thirty-six hours diurnal irrigations should be employed. In generalized serous peritonitis, after incision the peritoneum may be dried and the wound closed. If the exudation is sero-purulent, or purulent, the cavity is to be irrigated with 0.6 per cent sterile salt solution at the temperature of the body. After drying the cavity as before, exposed portions may be dusted (excepting children) with iodoform. In tuberculous peritonitis the best results are said to follow simple incision, without either irrigation or drainage. In the cases of plastic peritonitis, which is apt to accompany perforations, the greatest gentleness of manipulation is necessary, lest the perforation be reopened in case it had become closed with lymph. In these cases irrigation and drainage will usually be unnecessary.

In order to avoid peritonitis after abdominal operations, it is essential that the operating-room, the instruments and utensils, and the surgeon and his assistants, be absolutely clean; this end, it is stated, can be attained without the use of chemicals by the vigorous use of soap, water and brush. Ligatures and sutures are by preference kept in an ethereal solution of corrosive sublimate, being dipped in sterilized water just before use. Instruments are placed in 1:20 carbolic solution for fifteen minutes; before being used the liquid is diluted with sterilized water until the strength is 1:80 or 1:100. Gauze sponges answer very well; they may be sterilized in 1:20 carbolic solution, which is to be largely diluted before they are used for reaching the depths of the cavity; ordinary sponges, prepared in the same manner and fastened to holders, are the most suitable. It is important, of course, to do the least possible violence to the peritoneum. After having tried every method of closing the abdominal wound, the author recommends a continuous suture of fine silk in the peritoneum, and interrupted silkworm gut sutures embracing the entire thickness of the abdominal wall except the serous membrane. The peritoneal sac should be left as dry and clear as possible, bleeding should be carefully arrested, and all clots, pus, cyst fluid, and the like, should, when practicable, be removed; but care must be observed that these are not obtained at the cost of undue violence to the peritoneum. For the removal of blood clots and localized collections, the sponge is to be preferred to irrigation. If, however, it is necessary to cleanse the general cavity, the 0.6 per cent salt solution at blood-heat should be employed. Drainage will be necessary if a noxious material is left in the peritoneal cavity, or if it is expected that an extensive effusion will follow. Objection is made to the glass drainage-tube on account of its rigidity. The fenestrated rubber tube meets all indications, and is free from this objection; occasionally the use of strips of iodoform gauze will best secure the necessary drainage.

In conclusion, the author remarks that the surgeon's position with regard to peritonitis is, at the present time, similar to that which obtained some thirty years ago in regard to external inflammations. His efforts are directed against the effects of damage already done, rather than toward measures of prevention.

The Nucleins and Nuclein Therapy.—In an address delivered before the Illinois State Medical Society by Dr. Victor C. Vaughan, a report of which is published in the *Jour. of the Am. Med. Ass'n*, he says that recent investigations have indicated that a knowledge of the nucleins would probably be of service to practitioners, also that some of them promise to be of therapeutical value. Miescher, he says, was the first to study the nucleins with a fair appreciation of their importance, and it was he who named them. The corpuscles from pus were obtained by the addition of a dilute solution of sodium sulphate, subsidence, and decantation. Then they were digested with pepsin and hydro-

chloric acid so long as peptones were formed; this left the nuclei of the cells. These were found to be rich in phosphorus and soluble in dilute alkalies. From the alkaline solution the substance is precipitated by dilute acids. The liability of the nuclein molecule and its power of recuperation after partial decomposition have been demonstated by Miescher, and it has been shown that certain organic and inorganic bases may be placed within or drawn from the nuclein molecule without any visible modification of the character of the substance. Hoppe-Seyler has prepared nucleins from yeast; Lubavin, from casein; Plosz, from the nuclei of the blood-corpuscles of birds; and Miescher, from the yolks of eggs.

Dr. Vaughan and others have experimented with nuclein obtained from yeast, eggs, the spleen, the thyreoid gland, and the testes, and all of them have been found to be distinctly bactericidal. They have also demonstrated that the germicidal constituent of blood serum is a nuclein which is undoubtedly furnished by the mlutinuclear white corpuscles. When it had been shown that the nucleins were germicidal, it remained to be seen whether or not they might be used to prevent or arrest the growth of germs in the animal body. The author gives a long and comprehensive account of his experiments with rabbits and guinea-pigs in which he used a solution containing about two per cent of yeast nuclein, and from the results obtained he draws the following conclusions:

1. Rabbits and guinea-pigs may be protected against virulent cultures of the diplococcus of pneumonia by previous treatment with hypodermic injections of a solution of yeast nuclein.

2. The immunity thus secured is not directly due to the action of the nuclein as a germicide.

3. The process of this immunity is an educational one, and depends upon the stimulating effect of the nuclein upon an organ whose function it is to protect the body against bacterial invasion.

4. The longer the use of the nucleins is continued and the more frequently they are administered, the more complete is the immunity obtained.

5. In order to obtain this immunity, inoculation with the germ must follow soon after the last treatment with the nuclein.

Dr. Vaughan has also made some attempts to produce immunity from tuberculosis in guinea-pigs, but so far the results have not been altogether satisfactory, and in some cases they have been contradictory. He believes the nucleins to be entirely free from poisonous properties. He has injected subcutaneously in a man an ounce and a half of a two per cent solution of yeast nuclein at a time without any effect except the temporary irritation produced by so much fluid being injected, and he has also given from six to eight ounces of the same solution by the mouth during twenty four hours without any bad effect. In some persons, however, a much smaller dose might cause a marked elevation of temperature. For instance, in one patient, a large and apparently robust man who was suffering from muscular rheumatism, and in whom tuberculosis of the neck of the bladder had recently been detected, a hypodermic injection of forty drops of the two per cent solution of yeast nuclein caused the temperature to rise from two to four degrees. In a few cases the injection of eighty drops or more has been followed by a chill and an elevation of the temperature, and a redness like that of erysipelas has appeared and lasted for about twenty-four hours.

In tuberculous patients the effect of repeated injections has been a lowering of the temperature. Dr. Vaughan has used daily injections of nuclein for six months or more without observing any injurious effects from their continuous use. In twelve cases of membranous amygdalitis he employed the nucleins alone with good results, the fever disappearing within twenty four or forty-eight hours at the most. In four cases of streptococcus diphtheria good results were also obtained from their employment. Still another case where it was used successfully was that of a man who had been under treatment for an indolent ulcer of the leg. After other measures had been tried, the nuclein was used alone, and eighty minims of a two per cent solution of yeast nuclein were injected into the tissues around the ulcer. Eight injections were made and the ulcer healed perfectly. Two months have passed since the last treatment, and there has been no return of the trouble.

The action of the nucleins in giving immunity from pneumonia germs is not due to its direct germicidal effect, and the author says that we must look for curative agents in one or the other of the following classes:

1. Nonpoisonous germicides of cellular origin.

2. Substances which stimulate the activity of the organs whose function it is to protect the body against these diseases. While there are in the nucleins substances of the first class, he believes that the nucleins belong also to the second class. The phagocytic theory, he says, teaches that the multinuclear white corpuscles are the natural defenders against bacterial invasion, and if the nucleins are to prove of any value in the treatment of tuberculosis, it will probably be due to the fact that they increase the multinuclear white corpuscles. However, the author thinks that it is only in recent cases that any benefit may be expected, and even in regard to these there must be more abundant material and a longer experience in order to speak with any certainty.—New York *Med. Journ.*

The Bacteriology of Circumuterine Suppurations.—At recent meetings of the Societe de Chirurgie, a report of which is published in the *Repertoire Universal d' Obstetrique et de Gynecologie* for June 25 (New York *Med. Jour.*), M. Hartmann and M. Morax presented several observations on the bacteriology of circumuterine suppurations, based on researches made in M. Terrier's service. In all cases of catarrhal or parenchymatous salpingitis, also in hydrosalpingitis, no

microbes had been found, and in three cases of tubal pregnancy accompanied by hematosalpinx, also in three cases of retro uterine hematocele with fever, no cultures had been obtained. Two cases of suppuration of the broad ligaments had shown the presence of streptococci.

In thirty-three instances the researches bore directly on purulent collections affecting the annexa. On thirteen occasions the pus was sterile; thirteen times it contained gonococci, twelve times alone and once associated with the bacterium coli. In the latter case the rectum was hard and like a board, and the collection seemed on the point of opening. In four instances the pus contained streptococci, once alone and once with the bacterium coli and small undetermined bacilli; again it was found associated with the bacterium coli and the same undetermined bacilli, together with bacilli arranged in chains. Twice collections of pneumococci were found and once the bacterium coli.

In the cases of sterile pus, one was connected with oophoritis, shown by histological examination to be tuberculous, and the others were associated with old lesions, often gonorrheal. It was not possible to state for how long a time these sterile suppurations had existed, two of the thirteen patients having presented marked inflammatory attacks about two months before. Inflamed Fallopian tubes containing gonococci were observed in women who had recently undergone pelviperitoneal attacks. They had often followed soon after the appearance of a greenish yellow discharge from the vulva. The influence of preceding pregnancy on the development of blennorhagic salpingitis seemed evident. Salpingitis with streptococci succeeded almost immediately to lesions, sometimes traumatic, of the body of the uterus, an abortion, dilatation of a fibromatous uterus, etc. With regard to salpingitis with pneumococci or with the bacterium coli, a study of the family history of the patients did not permit of making any statement in the shape of an etiological hypothesis.

The results of the authors' researches were absolutely negative from the point of view of the relation between the condition of temperature and the nature of the lesion in the presence of which it was found. From a therapeutic point of view, and notwithstanding Schauta's and Wertheim's opinions, the examination of pus is of no use. The determination of the microbian nature of salpingitis may compel the physician to drain or to abstain from this procedure.

M. Terrier made a report on the work of M. Hartmann and M. Morax, who had examined circumuterine lesions from a histological and bacteriological point of view. In parenchymatous salpingitis no micro organisms had been found. In suppurating salpingitis they had ascertained the presence of staphylococci, gonococci, sometimes the bacterium coli, and in other cases pneumococci; finally, in certain cases, sterile pus had been found. From these facts M. Terrier concluded that drainage was necessary. Independently also of suppuration, when adhesions near the intestine had been torn, it was always prudent to drain. In a case of this kind he had opened the intestine, and he thought that in similar cases drainage might save the patients. M. Segond was very strongly in faver of drainage in cases where adhesions uniting the tubes to the intestine had to be separated.

The Prognosis of Albuminuria.—From a study of many cases of urinary diseases, Dr. G. V. Poore concludes, in the *Lancet* for June 16 (New York *Med. Jour.*), that the discovery of even a slight amount of unsuspected albumin by the acid test of boiled acid urine should lead the physician to re examine the patient carefully, to be sure that some of the concomitants of such a condition have not been overlooked. A trifling hypertrophy of the heart, slight pallor, deficient body weight, slight increase of the tension of the pulse, ever so slight a puffiness around the ankles, tongue slightly furred or slightly tremulous, a florid complexion, or other evidences of an old and perhaps forgotten syphilis, at once assume a serious importance. If, after repeated examinations of the urine, the albuminuria is found slight and temporary, the patient otherwise looking strong and hearty, with no suspicion of intemperance and with no flaws in the family history, the prognosis is good. If the albuminuria is slight and permanent, the prognosis is grave in the majority of cases. When much albumin is continuously found in the urine, the patient is in imminent danger, though Dr. Poore has had one such case in which the patient lived for twenty six years. It should not be forgotten that albumin may be temporarily present in the urine of persons who afford no reliable evidence of kidney disease. In such cases it is the result of various disturbances, such as cold bathing, excessive exercises, injudicious diet, sexual excess, menstruation, leucorrhea, and other causes.

SURGERY.

A New Method for Reduction of Fractures of the Lower End of the Radius.—At a meeting of the Philadelphia County Medical Society, held May 9, 1894. Dr. Thomas S. K. Morton read a paper with this title, and said that the particular method of reducing fractures of the lower end of the radius had proved so satisfactory during the past few years in his services at the Pennsylvania and the Polyclinic Hospitals and elsewhere, and in the hands of others to whom he had from time to time demonstrated it, that he now felt justified in giving to it wider publicity. The method was as follows:

The surgeon stood in front of the patient and interlaced his fingers beneath the supinated wrist and palm of the injured member, so that his two index fingers lay

parallel crosswise beneath the lower end of the upper fragment of the radius. The palms of the surgeon's hands were then closed in upon the thenar and hypothenar portions of the patient's hand respectively, while the surgeon's thumbs rested parallel lengthwise upon the upwardly displaced lower fragment of the radius. The parts were thus firmly grasped by the surgeon while the following movements were made: The patient's wrist was excessively extended by carrying his hand upward. When superextension had thus been secured, the surgeon made powerful traction upon the wrist in the line of superextension. While this traction was maintained the hand was suddenly carried into full flexion, and at the same time powerful downward pressure upon the upwardly displaced lower fragment of the radius was made by the surgeon's thumbs opposed by the interlaced index fingers beneath the lower end of the upper fragment.

The excessive extension of the first portion of the movement had always, so far in the speaker's experience, loosened or disentangled the displaced lower fragment, while the subsequent traction, flexion, and direct thumb pressure had not yet failed to accurately force the lower fragment into its proper position. Separated epiphysis of the lower end of the radius was likewise easily reducible by this manipulation. For comminuted or complicated, or very oblique fractures extension and molding alone were called for in most instances.

Anesthesia was unnecessary for making a single effort at reduction by the proposed method. The patient did not anticipate what was coming, the two movements were made with lightning-like rapidity in a small fraction of a second, and, in nearly every case, perfect reduction had been accomplished before the patient realized that he had been hurt. Should the manipulation fail to secure perfect reduction at the first attempt, he would not repeat the maneuver until anesthesia had been induced, for the pain of repeating it would be intolerable. Failing in one effort, then, he would etherize and try again, first this, and afterward, if necessary, any other method that seemed advisable to secure perfect reduction. But thus far in cases that had been seen within a week of the accident he had never had to anesthetize since evolving the method mentioned; all had been reduced at the first attempt.

In cases older than one week, with displacement persisting he anesthetized before making any effort at reduction. The new method might then first be resorted to, and would often be found the best means of performing both refracture and reduction.

For making a diagnosis he had also found a modification of this method most useful. If the surgeon would take the hand and wrist in which fracture was suspected into his hands, as above described, and, while the thumbs pressed firmly upon the lower end of the radius or first row of the carpus, make a series of gentle, quick, short flexions and extensions of the joint, rocking it through an arc of perhaps twenty-five or thirty degrees above and below the forearm as a horizontal plane, he would be astonished at the ease with which crepitus of the bones of the joint, and of any small or large bony or cartilaginous fragment, would be elicited. And, best of all, the diagnosis of these obscure fractures about the wrist would thus, after some practice, be brought out without giving unbearable pain to the patient. Indeed, he had often in this way, by the most gentle and practically painless manipulation, been able to clear up the nature of intricate injuries about the wrist.

By practicing the method upon a normal wrist a sufficient degree of expertness could readily be acquired; by it joint crepitation could be brought out in any wrist. It was well, however, not to practice too much or too often upon the same extremity, as excessive stirring up of the joint contents might originate a synovitis.

Dr. Morton said that he would be gratified to have reports of the experience of others who might be tempted to employ the method here put forth.

The Experimental Inoculation of Warts.—The *Journal de clinique et de therapeutique infantiles*, publishes an article by Dr. G. Variot, who had observed in a child 10 years old, typical warts on the back of the hands and pedunculated papillomata on the eyelids. The author concludes that there had been self-inoculation caused by friction, the child having been in the habit of rubbing the eyelids with the fingers. This child had been brought to a dispensary, where two medical students were present with the author. He noticed how this multiple localization favored inoculation, and he proposed to these students that they should become inoculated in order to remove all doubt, to which they consented. An abrasion was made in a small flat wart on the child's hand—one that appeared to be still in its first growth, and on which the papillary protuberances were not distinct. After washing away the blood with a tampon of absorbent cotton, the point of an ordinary needle was thrust into the surface of the wart, and then with this needle several punctures were made in the skin of the students' fingers. The punctures were very superficial. Nothing resulted from this in the case of the younger student, but two months afterward the older one noticed that the epidermis, where the puncture had been made, had become thick and somewhat opaque. There was a sort of disc from two to three millimetres in extent the outline of which was distinc. A month later he discovered a pimple, a hard and somewhat sensitive elevation in the region corresponding to that of the disc. Very soon this protuberance became covered with small points, and had a typical warty aspect. A month later the author made an examination and found an excrescence of three millimetres in diameter, the surface of which was covered with horny protuberances which became more apparent when the epidermis was scratched. The consistence of this small mass was hard, and, on pressure, it was somewhat painful. There was no redness or any inflammatory reaction of the derma. The student's general health was good.

The author quotes the following from M. Besnier's

annotation on Hebra's and Kaposi's work on the bacteriology of warts: "Cultures of microbes of warts on agar-agar have given greenish yellow masses. The warts obtained by inoculation have not yet been examined under the microscope, but the examination of preparations makes it even now probable that these warts really represent common warts. With these cultures ten inoculations were made on four animals, and two yielded satisfactory results. About 15 days after the inoculation, warty excrescences were discovered of about the size of a grain of hempseed, somewhat flattened, and brownish in color."

The value of inoculations made with cultures is above all criticism, but Dr. Variot thinks that those made directly with the lymph taken from the wart are of equal value.

Microbes inoculated in the epidermic layer multiply slowly, and in some instances more than two months had passed before an appreciable change of the epidermic layers and a hypertrophic reaction among the papillæ had been observed. Whether the development of warts experimentally inoculated is also always slow, the author says it is impossible to say, judging from the single instance which he has related. If similar experiments have already been made by other physicians, the process of the evolution of warts can be compared and certain conclusions formulated. It is certainly an established fact that warts are self-inoculable and capable of inoculation from one person to another.

The prophylactic measures which the author had prescribed, in the *Journal de clinique et de therapeutique infantiles* for December, 1893, for avoiding the propagation and spread of warts should be strictly observed.

It is necessary, he says, to watch warty children carefully, to see that they do not rub or scratch the skin on the face or on the body with their hands, and in school children should avoid coming in contact with those who have warts.—New York *Med. Journ.*

OBSTETRICS AND GYNECOLOGY.

A Case of Difficult Labor Occasioned by an Enormous Distention of the Fetal Bladder.—Schwyzer (*Archiv f. Gynecologie; Annals of Gyn. and Paed.*) describes a case of difficult labor occasioned by great distention of the urinary bladder of the child, which occurred in the Turicher Frauenklinik, and refers to thirteen similar in the literature. In Schwyzer's case labor could not take place spontaneously, from great distention of the abdomen. The head entered the pelvic canal and then ceased to descend. Upon traction with the forceps the head was torn off. The abdomen was then punctured and six litres of fluid drawn off, when the body was born with ease. From the reported cases the following is noted: The heart sounds are very indistinct or not at all to be heard; usually there is an absence of the rectum, the colon opens into the bladder, the urethra is closed, and the uteters and pelvis of the kidney are dilated; in female children there may be a dilatation of Muller's ducts, *i. e.*, the uterus and tubes, with urine.

Laparotomy for Extra-Uterine Pregnancy.—Dr. Smolsky (*La Tribune Medicale; Annals of Gyn. and Paed.*). Nearly all surgeons are unanimous for performing laparotomy for extra-uterine pregnancy. The diagnosis is most difficult, if not impossible, before rupture of the fetal cyst; consequently, when this occurs, the surgeon has an intra abdominal hemorrhage to deal with where no hesitation is possible. This is the usual course of events. The operation is performed to stop the acute anemia, which would soon be fatal. But sometimes the hemorrhage is not violent and the focus becomes encysted, forming a retro-uterine hematocele. Should laparotomy be done when this is the case? Dr. Smolsky has observed a case of this kind in which spontaneous recovery took place, and thinks that the operation is not necessary. The author gives the following propositions, based on his own case and others derived from medical literature:

1. Laparotomy is indicated in tubal pregnancy which is diagnosed before rupture of the tube.

2. It should be performed in recent rupture with intra abdominal hemorrhage during the first months of an extra uterine pregnancy.

3. A tubal pregnancy terminating in a retro uterine hematocele will probably end in spontaneous recovery. Laparotomy should be resorted to only when the life of the patient is in danger or if the tumor should suppurate; but even then an opening made in the retro-uterine cul-de-sac is to be preferred to laparotomy.

Typhoid Fever During Pregnancy.—Dr. Emile Duhaut (*Journal de Medecine et de Chirurgie; Annals of Gyn. and Paed.*) has collected many documents concerning the frequency of typhoid during pregnancy, its gravity, and the results obtained by the cold-bath treatment. A most remarkable fact, brought out by the number of cases in this *memoire*, is that typhoid fever is infrequent in the pregnant female. Of 1046 cases of typhoid treated by different Lyons physicians only seven were pregnant women. This extreme rarity cannot for the time being be explained, and must be accepted as a simple fact. On the other hand, it appears that the disease attacks women during the first months of pregnancy rather than the last, which, according to Gusserow, might be explained by the fact that there is less danger of exposure to typhoid during the latter part of pregnancy. When, however, typhoid does occur during pregnancy it may be said in a general way that it is in no way influenced by this condition; but in more than half of the cases pregnancy is interrupted, abortion being more frequent than premature delivery. Interruption of pregnancy takes place ordinarily during the second week of the disease. Abortion or premature labor, as the case may be, may darken the prognosis,

from the fact that typhoid facilitates the development of puerperal infection. As to the treatment of typhoid fever during pregnancy by cold baths, Dr. Duhaut has brought together fourteen cases where this method was employed, with the result of saving all the mothers and only three abortions occurring. It appears from this that this treatment is good, and the results can be theoretically explained. The two great causes of abortion in typhoid are maternal hyperthermia and infection of the fetus. Now, the cold bath acts by keeping the maternal organism in a state of relative apyrexia during all the febrile period; it can transform a high fever where abortion would be nearly impossible to prevent into a less severe fever with moderate temperature when abortion is more rarely observed. Diuresis, one of the most remarkable effects of the cold bath, provokes rapid elimination of the bacilli and their toxines, lessening the chance of fetal infection. The com clusion of these facts is that, contrary to what might be supposed, the cold bath is without danger in these cases. It would appear that this sudden cooling, exercising a vaso-constriction of the peripheric arteries, consequently pushing the blood into the deeper organs, would cause congestion of the uterus, with its attending placental hemorrhages; but clinical observation shows that internal congestions are not produced by the cold bath, and the number of complications may perhaps be less.

NOTES AND ITEMS

B. F. Jones, M.D., of Kearney, has removed to Ashland, Neb.

The Medical Publishers will hold their meeting at Hot Springs, Va., Monday and Tuesday, August 13 and 14, instead of August 14 and 15, as previously announced.

A New Journal.—The *Railway Surgeon* made its first appearance under the date of June 5, 1894. It is the organ of the National Association of Railway Surgeons, taking the place of the *Railway Age*.

The Cholera.—Asiatic cholera is reported to be spreading in Russia with a decided increase in the number of cases and in fatality in St. Petersburg. Elsewhere on the Continent the disease attracts little general attention although sanitary authorities are exceedingly vigilant. On July 6, four more cases of the disease developed among the passengers on an infected steamer recently arrived from St. Petersburg at Stockholm, and nineteen possengers had been removed to quarantine from another steamer just arrived from the same port.—*Jour. of the Amer. Med. Ass'n.*

The Plague.—Writing from Peking, June 20, Mr. Frank G. Carpenter gives the first coherent account of the origin and spread of the bubonic plague in China. Previous reports have attributed its spread from Hong Kong to Canton, at which latter place it was said to have made its appearance about the end of April. Mr. Carpenter asserts that the disease came originally from the interior and reached Canton during the last week of February where it speedily caused an average of 200 deaths a day. "This average steadily increased until in March and April it was 500 a day and the mortality at the present time (June 20) is very large." The disease made its appearance in Hong Kong in April, carried thither persumably by the fleeing Cantoneese.

Jenner's Antecessor.—His name is not known; but as Jenner's centennial approaches it was to be expected that some one would discover that somebody else had discovered vaccination long before Hunter's pupil inoculated James Phipps with the cowpox in 1796. At a recent meeting of the Epidemiological Society of London, Dr. Pringle called attention to the following passage in an ancient Hindu work as evidence that vaccination was practiced in India centuries before the birth of Edward Jenner: "The smallpox produced from the udder of the cow will be of the same mild nature as the original disease; the pock shall be of good color, filled with clear liquid, and surrounded by a circle of red. There will be slight fever for one, two or three days, and no fear need afterward be entertained of smallpox so long as life endures."

An Interesting Law Case.—An action for damages has just been tried in one of the Paris courts which perhaps is unique of its kind. A gentleman suffering from anemia of a very hopeless type was advised by his medical attendants to submit to the operation of transfusion; and having consented, his gardener volunteered to supply the blood. Consequently transfusion was performed, and to the great benefit of the patient, who recovered completely after a short time. However, some time afterward the gardener fell ill, and attributed his condition to the sacrifice he made for his employer. He accordingly brought an action against him for damages, claiming the large sum of 60,000 francs, or nearly two thousand five hundred pounds. The court ordered an independent medical examination of the case; but in the meantime the man died, that is to say, two years and three months after the operation. The autopsy proved that the gardener had succumbed to a carcinoma of the stomach, and the doctors gave their opinion that the malady was not affected by the transfusion. However, the widow contined the suit, and last week the court dismissed the case with costs against the plaintiff.—*Medical Press.*

St. Louis College of Physicians and Surgeons.—The faculty of the St. Louis College of Physicians and Surgeons has been re-organized as follows:

James A. Close, M.B., L R.C.P., and M.R C.S., Eng., Dean, Professor of the Principles and Practice of Medicine and Clinical Medicine, and Director of the Biological Laboratory; Emory Lanphear, M.D., Ph.D., Operative and Clinical Surgery; Andrew A. Henske, A.M., M.D., Gynecology and Obstetrics; Frank Parsons Norbury, A.M., M.D., Neurology. G. Wiley Broome, M D., Principles and Practice of Surgery; John H. Duncan, A.M., M.D., Dermatology; George D. Purinton, A.M., M.D., Ph. D, Physiology and Clinical Medicine; Henry Dettmer, A.M., Ph.D., Chemistry and Director of the Chemical Laboratory; James Moorse Ball, M.D., Ophthalmology and Otology; William W. Graves, M.D., Materia Medica and Diseases of Children; M. Dwight Jennings, M.D, Rhinology, Laryngology and Bacteriology; Frank Ring, M.D., Professor of Anatomy, is at present in Germany, visiting the different Universities in the interest of this branch. Anatomy will be taught by H. Lindis Getz, M D., of Marshalltown, Iowa. Thomas J. Portis, LL.D, is Professor of Medical Jurisprudence. Robert Funkhouser, A.M., M.D., LL. B., has accepted the chair of Gynecology and Abdominal Surgery.

The Association of American Medical Colleges.—The following resolutions were adopted at a meeting held in San Francisco on June 7.

Resolved, That colleges, members of this association, shall require of all matriculates an examination as follows:

1. An English composition in the handwriting of the applicant of not less. than two hundred words; said composition to include construction, punctuation, and spelling.

2. Arithmetic, fundamental rules, common and decimal fractions, and ratio and proportion.

3. Algebra—through quadratics.

4. Physics, elementary.

5. Latin—an amount equal to one year's study, as indicated in Harkness' Latin Reader. (This resolution does not apply to students exempt from the entrance examination, as per Sec. 2, Art. III.)

Resolved, That the following classes of students be recognized as entitled to apply for advanced standing in colleges members of this body:

a. Such graduates of recognized colleges and universities as have completed the prescribed courses in chemisty and biology therein.

b. Graduates and matriculates of colleges of homeopathy.

c. Graduates and matriculates of colleges of eclectic medicine.

d. Graduates and matriculates of colleges of dentistry requiring two or more courses of lectures before conferring the degree of D.D.S.

e. Graduates and matriculates of colleges of pharmacy.

f. Graduates and matriculates of colleges of veterinary medicine.

It is provided, however, that this class of students be required to comply with the provisions of the entrance examination and to prove their fitness to advanced standing by an individual examination upon each branch below the class he or she may desire to enter.

Resolved, That students graduating in 1899 or subsequent classes be required to pursue the study of medicine four years and to have attended four annual courses of lectures of not less than six months' duration each.

The Effects of the New European Military Firearms.—The *Mercredi Medical* for June 27 publishes an abstract of a paper on this subject read at the Rome Congress by M. Coler and M. Tchjerning, of Berlin, who, by the favor of the Prussion Government, have been able to study the effects produced by projectiles of small caliber of the new fireams adopted by the European armies (New. York *Med. Jour.*). They have experimented with full charges at variable distances of from twenty-five to two thousand meters or more. They compared the results of their experiments with observations made of soldiers who had committed suicide. In the first place it was ascertained that the balls, when they passed through the soft parts, did not show any indentation, but when they struck the hard bones they were indented; rarely they became lodged in the tissues. When the balls are shattered the pieces may penetrate deeply, cut the vessels, and give rise to much trouble. The balls used at present are very long and have the tendency, in their course, to pass through crosswise, thus enlarging the passage and the opening of departure, which is always larger than that of entrance. This rotation causes the most disastrous results. Although the balls become heated in their course, the temperature is not sufficiently elevated to cause burning of the tissues.

With regard to the organs injured, it has been remarked that wounds of the soft tissues, like pulmonary tissue, are not so serious as those of other organs. In the abdomen, when the liver and the spleen are injured, the effects are more serious; the parts are torn and crushed, and the splinters are scattered far from the seat of the injury, generally perforating the intestine at several points.

Among suicides, all wounds penetrating the abdomen terminate in death, while the majority of wounds of the lungs are cured. When the skull is struck from a short distance, it is shattered and the brain protrudes at all parts. When empty skulls are shot at, the perforations made are simple, without splitting. The bones are fractured and crushed and the splinters are driven in different directions, constituting projectiles in themselves. When the distance is greater, from a thousand to fifteen hundred or two thousand meters, the bony lesions are simpler and the splinters less numerous.

The authors conclude that wounds made by the new firearms are more serious than those produced by the old ones, and that the number of wounded soldiers will certainly not be diminished in future wars. They have

seen the disastrous effects to these new firearms, and think that war will be more horrible than ever and the physician's responsibility greater.

Sulfonal as an Antispasmodic.—Although sulfonal has been chiefly utilized as an hypnotic, it has repeatedly shown its value as a motor sedative in diseases characterized by spasm, such as tetanus, epilepsy, asthma, whooping cough. Dr. Andrews has called attention to its remarkable antispasmodic power in relieving the cramps of fractured limbs, contusions of the muscles, etc. Drs. Allison and Morgan Vance have found sulfonal serviceable for controlling pain and spasm in rectal surgery, by the administration of twenty grains in the evening. Excellent results have been obtained from its use intetanus by Berenyi; in chorea by Croner, Jeffreys; and in epilepsy by Hinsdale, Dercum, Bannatyre and others. With regard to its action in epilepsy, Dr. Dercum states that both the violence and the frequency of the spasms are diminished by very moderate doses and that it can be administered for quite long periods in place of the bromides, thus enabling the patients to rally from the depressing effects of the latter. Dr. Bannatyre found it of value in those inveterate and incurable cases where the bromides have little or no action and where the attacks are very numerous and attended with over excitability of the brain. In cases of asthmatic seizure, obstinate hiccough and chorder the antispasmodic properties of sulfonal have also been resorted to with advantage. Dr. Barclay of Aberdeen has found it very useful in asthma and delirium. Coates and Andrews in hiccough and Faulkner in chorder. It should be borne in mind that these results may be derived from moderate doses, that the remedy is free from narcosis, and that after-effects are due to improper methods of administration.

FORMULÆ

Dysentery.

℞ Subgallate of bismuth, - - - - - - ʒj.
Opii pulv., - - - - - - - - - gr.v.
Sacch. lactis, - - - - - - - - - ℈j.
M. f. pulv. Divide in dos. No. x.
Sig. One powder three to four times a day.

Vaginitis.

℞ Sennine,
Alum pulv., - - - - - - - aa ʒj.
M. f. pulv.
Sig. Tablespoonful dissolved in one quart of water for injection.

℞ Sennine, - - - - - - - - - ʒij.
Opii pulv., - - - - - - - - gr.v.
Tannin, - - - - - - - - - ʒj.
Ol. cacaon., - - - - - - - - ʒv.
M. f. globul. vaginal, No. 10.
Sig. One to be inserted at bedtime.

Diarrhea in Children.

℞ Bismuth. subnitric, - - - - - - ʒss.
Sennine, - - - - - - - - - gr.v.
Opii pulv., - - - - - - - - - gr.j.
Sacch. alb., - - - - - - - - ʒss.
M. f. pulv. Divide in dos. No. 10.
Sig. One powder every three to four hours.

Emphysema.

℞ Potass. iodide, - - - - - - - ʒiij.
Tinct. digital., - - - - - - - fʒj.
Tinct. lobeliæ, - - - - - - - fʒiij.
Aq. destillat., - - - - - - - fʒiij.
Syr. cort. aurant., - - - - - - - fʒj.
M.
Sig. Teaspoonful three to four times a day.

Gout.

℞ Vin. sem. colchici, - - - - - - - ʒiij.
Potass. iodid., - - - - - - - ʒij.
Lig. fowleri, - - - - - - - - ʒj.
Aq. destillat., - - - - - - - ʒiij.
Syrup. simpl., - - - - - - - ʒj.
M.
Sig. Teaspoonful twice daily in warm water.

Chlorosis.

℞ Somatose, - - - - - - - - - ʒj.
Hæmoferrum (Stearn's), - - - - - - ʒij.
M. f. pulv.
Sig. Teaspoonful three time a day.

Freckles and Sunburn.

℞ Plumb. acetic., - - - - - - - gr.xx.
Aquæ rosæ, - - - - - - - - fʒv.
Tinct. benzoes, - - - - - - - - fʒss.
M.
Sig. Face-wash.

Whooping-Cough.

℞ Codein, - - - - - - - - - gr.j.
Neurosine, - - - - - - - - fʒj.
Syrup. pruni virginian, - - - - - - fʒij.
M.
Sig. Teaspoonful three times a day.

Toothache.

℞ Camphor pulv.,
Chloral hydrat., - - - - - - aa ℈j.
Cocain. hydrochlor., - - - - - - gr.v.
Ol. caryophyll., - - - - - - - gtts.v.
M.
Sig. To be introduced into the tooth-cavity.

℞ Tinct. iodi,
Chloroform, - - - - - - - aa ʒj.
M.
Sig. Apply to the gums.

Dios Chemical Co., St. Louis.—I tried Dioviburnia on a severe and long standing case of dysmenorrhea with most gratifying results. I have reported success with the Dioviburnia to a brother physician and druggist and have urged them to obtain a supply. They will. It does all you recommend it to do.

H. E. Bowles, M.D.,
Hammonton, N. J.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

Trosseau (*Clin. Med.*, p. 598), speaking of signs exhibited by the lower animals while breeding, says:

Need I add, that during the period of rut in most female animals, the congestion of the genitals manifests itself by a flow of blood, and by an increase in the secretions of the glands which are annexed to those organs? Both Tarnier and Chantrevil (*Tr. d'Accouch*) and Cazin in his "Memoir on Varices in Pregnancy and Parturition" (*Arch de Zool.*, 1880), quotes Raimond as saying that "In the females of animals the vagina is colored red at the epoch of heat; it takes a violet or brownish tinge during pregnancy, and the mucous membrane seems to thicken." Cazeany says: "In the rabbit it is tumefaction and almost varicose infection of the vessels of the vulva. To this coloring and tumefaction is added, in the bitch, an odorous secretion which allures the males and puts them upon the track of the females. Finally, in monkeys a more or less abundant hemorrhage occurs, which, in the case of the macaques and the cynocephalæ, coincides with so monstrous a swelling of the vulva that in certain cases the surrounding parts are infiltrated as though inflamed in consequence of the sting of bees."

Raciborski (*Traite de la Menstruation*, p. 43) remarks on the resemblance between the rut and menstruation in the matter of periodicity, and states that sows have symptoms every fortnight or eighteen days, heiffers every twenty-one days, sheep every fortnight. Quoting from a friend having choice cattle, he says that the higher breed requires the male more often than inferior breeds; on which he explains: "En viola un singulier privelige de l'aristocratie dans de la race bovine!"

Generally in most animals there is a swelling of the external genitals and a discharge which is most sanguinent, especially in the heiffer, bitch, sow, and rabbit; while in monkeys, particularly in the great species, it often takes the proportion of a hemorrhage.

Raciborski regards woman and the quadrumana probably as the only females who have complete exfoliation of the mucous membrane of the uterus after each conception, and considers that the commencement of this important process is repeated at each ovulation. He says also (p. 18) that he has seen in the Jardin des Plantes, at Paris, monkeys who were abundantly regular every month for five days.

Mr. Darwin incidentally refers to the existence of the periodical function in the females of the lower animals thus ("Animals and Plants under Domestication, vol. 1, pp. 33–34): "Several years ago I saw confined in the Zoological Garden, of London, a female hybrid from an English dog and jackal, which even in this, the first generation, was so sterile that, as I was assured by her keeper, she did not fully exhibit her proper periods; and again (vol. 2, p. 182). "Elephants, both male and female, have their proper periodical seasons."

Fleming ("Veterinary Obstetrics," p. 55) says: "The rutting, heat, estrum, or venereal estrum of animals is analogous to menstruation in woman and marks the period of maturition in the ovarian ova or ovum, according to the species. This condition is intermittent or periodic, not continuous; and is characterized by a peculiar systemic excitement, that usually continues for a somewhat definite period in the two sexes. In the male and female, especially in the latter, the generative organs at this period become more or less turgid and sensitive, and the uro-genital secretions are increased. In the female there is a determination of blood to the ovaries, and changes take place in these which have already been described. The excitation of the generative apparatus reacts on the whole system, and produces a kind of fever or irritability in the animal; its sensibility is increased; the appetite is more or less in abeyance, or capricious, and usually there is thirst. Attempts at micturition in the female are frequent but only a small quantity of urine is passed; the mucous membrane of the vagina is injected, and with the solipeds there are oft-repeated movements of the clitoris and vulva, and an opaque white secretion, or even emissions of blood are ejected spasmodically, per vulvum." In a foot note Fleming says: "Kaiser, in the *Magazine f. die Gesamente Thierheilkunde* for 1859, mentions a mare, twenty-four years of age, which every three weeks had a sanguineous emission from the vulva; this discharge ceased toward the middle of pregnancy, but returned after parturition. I have frequently witnessed the periodic discharge from mares either streaked with blood or blood tinted;" and then resuming the text: "In other animals this injection sometimes consists of a viscid red tinted or sanguinolent fluid. It has a special and powerful odor, which attracts the males. The uterine mucous membrane is also very congested, and there is poured out on its surface a fluid containing epithelial debris, mucus, corpuscles, and blood globules.

"The existence in the lower animals of what is anal-

ogous to the menstrual discharge in the human female has been frequently denied, but without any reason or proof. A discharge of blood from the sexual organs of woman announces the advent of puberty; and its coincidence with the maturity and escape of the ovarian ovule, as well as its periodical appearance until the termination of fertility, establishes between this phenomena and the heat or rut (estrum) of animals a very close analogy. Kahleis, Fuschs, Spinola, Numann, and others have observed this in the cow and have also noted that the discharge occurs regularly at intervals of nineteen or twenty days when the animal is not giving milk or is in calf. The hemorrhage flow appears two or three days after the commencement of rutting and when this is most intense. The amount of blood does not exceed one or two ounces, and the coagulated clot remains in the vagina until it is expelled with the urine. There can be no doubt as to its source. If at the moment when traces of it are perceived externally, the cow is killed, and the inner surface of the uterus examined, blood will be seen exuding from the cotyledens. And this phenomenon has been proved to extend beyond the bovine species, for it has been witnessed in the mare, bitch, cat, rabbit, etc.; and in the red colored mucus of the vagina and uterus multitudes of blood corpuscles have been found.

"With regard to the season at which this heat takes place, it has been observed that it is usually in the spring time when food becomes plentiful, especially with herbivorose animals. The carnivora are in heat during winter. The mare is usually in heat from April to June or later. With the cow, whose calf is sold at from one to two months old, with a view to utilizing the milk, the season of course is varied, as care is taken to induce conception again as soon as the lacteal secretion begins to diminish; but it has been observed that midsummer is more particularly the rutting period. And the heat in sheep, though naturally present in September, is usually only shown during summer because the ewes are kept apart from the ram at the natural time in order that the lambs may be borne at a favorable season—the spring. The bitch is in heat from December to February, and also in the spring and autumn; sometimes the heat appears three or four times in a year, and the animal may produce young frequently, though in the wild state it seldom does so more than twice a year. The pig manifests rutting in October or November—at least that is the period when it is usually put to the male; and it may be put a second time towards the end of spring, in order to have two litters within the twelve months. The frequency and duration of the period of rutting or heat depend upon the age, species and other circumstances; but it may be said to persist, in the domesticated animals, from one to fifteen days at the most. The shortest period is witnessed in the cow and sheep, and the longest in the bitch. It is sometimes only present from twelve to twenty-four hours in some non-fecundated animals. With impregnation, however, it ordinarily ceases until after parturition; and if impregnation does not occur, it gradually disappears until the next period, which is somewhat variable. Its re-appearance in the cow has been noted every month or three weeks, and sometimes at closer intervals; and in the sheep and pig it lasts for one or two days, and again appears from the fifteenth to the thirtieth day, but usually every month. When removed from artificial conditions it is stated that the ovine species is in rut in September, that this persists only for a day, but reappears every fourteen days until the end of December. From the spring until the end of summer it may be said the mare manifests a desire for the horse every three or four weeks, and the objective phenomena which announce it continue from two to four days. In the bitch they last for nine or ten days and only appear in the spring and autumn. Domesticity in assuring animals food and shelter, and removing them from risks and alterations of an erratic life, multiplies the returns of this condition. Fowls, pigeons, etc., lay despite the rigors of winter, and the domesticated mammals are in heat at short intervals. Some animals, as the mare and pig, manifest a desire for the male, and even copulate (shortly after delivery); and it is no less a fact that rutting and impregnation, may, and do occur, soon after parturition. The sow, ass, and sheep, and it is believed the mare, will copulate with greater certainty of success the ninth day after parturition than at any other time."

[TO BE CONTINUED.]

Heart Disease.

BY A. W. MASON, F.R.C.V.S.

A client purchased a valuable draught horse on Saturday afternoon, worked the animal on Monday with satisfaction; on Tuesday, when harnessed again, it was taken suddenly ill after working about an hour, and being removed into a yard it dropped down dead.

Post mortem examination notes were as follows: Valuable bay cart gelding, about ten years old, condition good, all organs except heart and kidneys were normal. Heart enlarged, walls thin, very pale in color, and when emptied the walls of left ventricle collapsed; the muscle of organ was very soft, and studded with petechial spots, aortic and semilunar valves were extremely thin. Kidneys enlarged, friable, pale in color.

The interest of this case is its suggestiveness. Supposing it had been my lot to examine the animal for soundness on the day of purchase, should I have detected disease? Had I failed to diagnose correctly what would have been my legal position?

If the diagnosis of these cases of heart disease, in which first class condition exists with ability to work a whole day without signs of weakness, if possible, it should be known. If diagnosis is uncertain or impossible, the sooner all practitioners join the Defense Association the better.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONCLUDED.]

XI.—THE ESSENTIALS OF ANTISEPSIS AND ASEPSIS. (CONCLUDED).

FAVORITE ANTISEPTIC AND ASEPTIC PROCEDURES OF VARIOUS WELL KNWON OPERATORS AND SURGEONS:

In order to obtain the very latest and most reliable views upon these subjects, the author has been in constant correspondence with many eminent medical gentlemen for some time. The correspondence has been peculiarly valuable, instructive and edifying—indeed, it is a source of very great regret that space does not permit the publication of the correspondence in full. The author is deeply indebted for the uniform courtesy and patience with which he has been indulged by these professional gentlemen, the demands upon whose valuable time must have been multifarious. In almost every single instance there has been a marked display of that true scientific brotherhood in which each lends his aid freely and willingly to a brother investigator—indeed, the correspondence has brought out in a remarkable degree that indissoluble tie of brotherhood and unity which binds the medical gentlemen of all ages, races and climes.

Professor Doctor Vincent Czerny, Professor of Surgery to the University of Heidelberg:—"I use, almost exclusively, gauze and wadding that has been sterilized with streaming steam. Both are first boiled in a 0.6 per cent. salt solution and then sterilized in steam. The catgut is sterilized in 1 per cent. bichloride solution. For disinfection of the hands we use Fuerbringer's method. For disinfection of wounds we use the following: Iodoform gauze and cloth which has been sterilized and dipped in 10 per cent. iodoform-ether solution. For moist bandages we generally use 1 per cent. of aluminic acetate."

Professor Doctor Carl Gussenbauer, Professor of Surgery to the Prague:—"In answer to your question I would say that the aseptic and antiseptic methods are in use in my clinic. Asepsis is secured by sterilization of the instruments and of the materials used for bandaging. For antiseptic purposes I use the corrosive bichloride of mercury (1:1000), and for the intestine salicylic or boracic acid. For dry bandages and for the tamponade of wounds which have been infected, and also in cases of tuberculous accumulations, I use iodoform. For moist bandages, when treating cases of acute purulent inflammation, I use the acetate of aluminum. For ligatures I use catgut, and for stitching, carbolized silk thread.

"We have recently made some other experiments with different antiseptics, but have found nothing more satisfactory than those mentioned. I hope that these few brief indications will be of service to you."

Professor Doctor Friederich von Esmarch, Professor of Surgery to the University of Kiel:—In answer to my letter, Professor Esmarch, who is without doubt the greatest military surgeon of the world, sent me a copy of his *Handbuch der Kriegschirutgischen Technik.* This work was offered in competition for the large prize to be awarded by the German Empress for the best work on the technique of military surgery. A jury consisting of Professor Doctor B. von Langenbeck, of Berlin; Professor Doctor Billroth, of Vienna, and Professor Doctor Socin, of Basle, awarded the prize to this work of Esmarch. It is undoubtedly one of the greatest, if not the greatest, work on military surgery in any language. In it Esmarch describes and prescribes in detail various preparations of phenol, sublimate, zinc chlorid, boric acid, aluminic acetate, salicylic acid, chromic acid, thymol, potassic permanganate, benzoic acid, iodic tri-chlorid, tri chlor phenol, chlorin, alum, aseptin, sulphates of zinc and copper, zinc sulpho carbolate, aseptol, eucalyptol, oil of juniper, hydrogen peroxid, absolute alcohol, iodoform, bismuth subnitrate, napthalin, zinc oxid, sozo iodol, dermatol, aristol, di-iodo-thio-resorcin, sulph aminol, salol, etc, as antiseptics in the form of solutions, saturated alcoholic solution

Doctor Thomas Annandale, Regius Professor of Clinical Surgery to the University of Edinburgh:—"*First*—In all cases of aseptic wounds, operative or otherwise, carbolic solution (1:40) is used and the surface of the wound well douched with it. Before closing the wound all fluids are pressed out, and then a piece of muslin which has been kept in a carbolic solution (1:40) is applied next the wound, having the fabric previously well squeezed so as to leave it just damp. Over this one or more layers of wood wool or corrosive wool, according to the probable amount of serous or other discharge, are applied and all are kept in position by a soft *flannel* bandage.

The dressing is not interfered with until—

a. Any discharge shows through the dressing.

b. Any rise in temperature.

c. Irritation or swelling felt by the patient in the part.

Second—Septic wounds are treated by thorough washing with carbolic solution (1:20); by the free use of iodoform; by the application of charcoal poultices, in which I have great faith; and, in the case of the limbs, the antiseptic bath is used when possible."

Doctor John Chiene, Professor of Surgery to the University of Edinburgh:—"Thorough preparation of the skin of the patient, surgeon and assistants with soap, water, turpentine and methylated spirits, followed by 1:20 carbolic acid. Instruments boiled and then laid in 1:20 carbolic acid. Dry corrosive sublimate dressings; swabs, not sponges, of gauze, or wool enclosed in gauze (as shown me by Mr. Cotterill, Assistant Surgeon, Edinburgh Infirmary); rarely use drainage tubes, careful pressure taking the place of drainage, taking great care to arrest haemorrhage at the time of the operation."

Dr. Thomas Bryant, London, England: "I always use dry dressings for fresh wounds and of these I prefer the wood wool tissue, that is wood wool mercuriated and enclosed between two layers of gauze.

"I employ warm or hot water stained of a cherry color with the tincture of iodine to saturate the sponges I use in operations; and always apply to the surface of a wound, before its dressings are applied, a sponge wrung out in very hot iodine water to stop capillary oozing. I finally dust the wound before closing it, with a powder composed of one part iodol and four parts powdered boracic acid.

"I usually suture my wounds with fine chromicized catgut or silk rendered aseptic by boiling in carbolic water and preserved on a metal winder in pure alcohal.

"Iodoform gauze I apply to the surface of the wound beneath the wood wool tissue. I, in all deep wounds, introduce a drainage tube of rubber for one or two days and rarely dress wounds for the first three days, if there are no indications for interference.

"In large wounds I use a simple strip of plaster applied between the sutures to keep the edges in apposition. Most of my wounds heal by 'quick union.'"

Dr. [illegible], London, England: "I use sterilized water. Five per cent carbolic solution for my instruments after sterilization by boiling. For disinfection of the hands 1:500 perchloride of mercury. In cases of any doubt I irrigate with weak solutions of mercury, 1:1000 to 1:4000.

"I use dry dressings wherever possible and avoid hemorrhage as much as possible."

Dr. Reginald Harrison, Surgeon to Saint Peter's Hospital; Hunterian Professor of Pathology and Surgery, Royal College of Surgeons; London England: "Amongst the uses of antiseptics must be included their applications to operations involving the urinary apparatus. Recent researches, based upon bacteriological observations, show that the urine is capable of being acted upon in the course of its excretion as to render the occurrence of rigors and fevers following lesions and abrasions of the urethra, as after internal urethrotomy, divulsion, or the use of catheters and bougies, either rare or innocous. This process is usually referred to as sterilization of the urine and was first put into prominence by Dr. E. R. Palmer of Louisville, Ky., chiefly with the use of boracic acid administered internally as a preliminary to the operation of internal urethrotomy. For this purpose, as well as for other operations of a like nature, for two or three days previously I usually administer from five to ten grains of boracic acid in water every four hours. My results in thus preventing rigors and fever correspond with those of Dr. Palmer. This action of boracic acid is probably due to its being eliminated largely by the urine and there acting as a protective against bacterial development and propagation. Quinine, salol and hyposulphite of soda act much in the same way. In uncomplicated cases of purulent cystitis the last-mentioned chemical in half-drachm doses administered three or four times a day in water will often speedily clear the urine of pus and all traces of bacteria. Copaiba, sandal wood, salicylic acid and cubebs have a similar, though probably feebler action on the urine as antiseptics. Amongst local antiseptics, solutions of quinine and perchloride of mercury are amongst the best for washing out the bladder. The former may be used in the proportion of two grains to the ounce of water and the latter not stronger than 1:6000. Carbolic acid as an injecter for washing out the bladder often causes intense irritation when used in sufficient strength to act as a bactericide.

"These are the drugs I usually employ as antiseptics in lesions and purulent conditions involving the urinary tract."

Dr. W. W. Keen, Professor of the Principles of Surgery and of Clinical Surgery to the Jefferson Medical College of Philadelphia; Surgeon to Saint Agnes' Hospital, Philadelphia, Pa.: "I have no especial antiseptic formulæ or I would gladly give them. I employ commonly carbolic acid and bichloride solutions. I almost always use dry surgical dressings, antiseptic or sterilized, rarely wet. I have practically abandoned marine sponges and use sponges made of dry bichloride or sterilized gauze rolled into balls about the ordinary size."

Dr. Nicholas Senn, Professor of the Principles of Surgery and of Clinical Surgery to the Rush Medical College of Chicago; Surgeon-in-chief to Saint Joseph's Hospital of Chicago; Attending Surgeon to the Presbyterian Hospital, Chicago, Ill.: "I prefer dry dressings in all operations for aseptic conditions. In all other cases I rely on solutions of carbolic acid or sublimate. In operations for open tubercular lesions I give iodine solution the preference."

Dr. Arpad J. Gerster, Professor of Surgery to the New York Polyclinic; Surgeon to the German Hospital, New York City; Surgeon to Mount Sinai Hospital, New York City: "I have no favorite antiseptic formulæ. The ones I use you will find mentioned in the last edition of my book on the same subject and in a pamphlet mailed to your address to day which contains also an exposition of the principles governing the use of dry and moist dressings."

Dr. Gerster has been so freely quoted in the preceding pages and his work is so well-known that his opinions may be easily inferred.

Dr. J. William White, Professor of Clinical Surgery to the University of Pennsylvania, Philadelphia, Pa.:

"My dressings are as follows:

"Skin cleansed with

"(*a*) Soap and water.

"(*b*) Alcohol.

"(*c*) Carbolic acic 1:40.

"(*d*) Sublimate 1:1000.

"Sponges are placed in a solution of 1:50 carbolic acid in 1:2000 sublimate. As little sponging or irrigation as possible, except in cases where operative area is always infected. Then a douche of 1:20 carbolic acid in 1:1000 sublimate. Drainage tubes usually dispensed with in clean wounds.

"Permanent dressings of two varieties:

"1. (*a*) Iodoform dusted thickly over edge of wound and over skin for some distance.

"(*b*) Moist crumpled iodoform gauze.

"(*c*) Moist crumpled sublimate gauze.

"(*d*) Sublimate gauze bandages.

"2. Double cyanide dressing as recommended by Lister with his latest modifications.

"Results about equally good with these two methods.

"In most general clinical work and in the majority of all operative work a mild but thorough antisepsis with a minimum of sponging, irrigation, etc., is to be preferred."

Dr. John Ashhurst Jr., Professor of Surgery and of Clinical Surgery to the University of Pennsylvania; Surgeon to the Pennsylvania Hospital; Surgeon to the Children's Hospital of Philadelphia, Pa.: "I beg to say that an account of the antiseptic measures which I employ may be found in the sixth edition of my 'Principles and Practice of Surgery' recently published by Messrs. Lea Brothers and Co., of this city."

Dr. Ashhurst therein recommends "antiseptics *diluted with good common sense.*"

Dr. J. M. Barton, Surgeon to the Jefferson Medical College Hospital; Surgeon to the Philadelphia Hospital: —"I am in the habit of using at my clinics at the Jefferson College Hospital and the Philadelphia Hospital, where I have experienced assistants, aseptic measures in most of my operations, first sterilizing the parts, the sponges and the hands of the operator and assistants with some of the well known antiseptics, usually bichloride of mercury (1:1000), and preparing the instruments by boiling.

"During the operation boiled water alone is used, and the wound is dressed with dry gauze sterilized by heat. When we cannot expect to remove the blood-stained gauze at the end of twenty-four hours, as when an open wound is packed with it, iodoform gauze is used.

"In out of town operations, where I cannot have my usual assistants, I rarely attempt aseptic work, but before, during and, particularly, after an operation, I use a strong solution of bichloride of mercury freely to the wound. The instruments and the towels surrounding the seat of operations are sterilized with a 5 per cent. solution of carbolic acid.

"I have put up in dozens bottles each containing one ounce and a half of carbolic acid and one ounce of alcohol. One of these I carry with me to each of my private operations and empty into a quart of warm water, making a 5 per cent. solution, in which the instruments lie, in their tray, until the patient is under ether. Towels are then wetted in the solution, which removes it from the instruments, and the towels are used to surround the site of the operation and to cover the instrument table.

"The addition of the alcohol causes the carbolic acid to fully and quickly dissolve in the water.

"Dry dressings, sterilized by heat, are carried with me and applied while the parts around the wound are still wet with the mercurial solution.

"When the wound is open and infected, I use wet dressings, usually gauze wet with the mercurial solution, being careful to fully cover the dressing with macintosh to prevent evaporation strengthening the solution and causing blistering."

Dr. William Hunt, Surgeon to the Pennsylvania Hospital, Philadelphia, Pa.:—"I have no favorite formulæ for antiseptic procedures; varying strengths of corrosive chlorides, carbolic acid and *hot water* meet all the requirements according to my experience."

Dr. Roswell Park, Professor of Surgery to the Medical Department of the University of Buffalo; Surgeon to the Buffalo General Hospital; Consulting Surgeon to the Fitch Accident Hospital, Buffalo, N. Y.:—"My favorite application to the parts to be operated on, and which I have applied for at least twenty-four hours previously, when opportunity permits, is of green soap with 5 per cent. of lysol or of hydronapthol, perhaps a little glycerin being added to the whole mass. This I have applied on compresses, with rubber tissue outside to prevent evaporation.

"In my portable operating outfit, which I carry to all country operations, I take a saturated alcoholic solution

of hydronaphthol for use upon instruments, ligatures, etc., to be used during the operation. These I place in boiling water and add to it a little of the alcoholic solution. The hot water takes up so much of it as it can, making thereby a saturated watery solution, and the rest is simply wasted, the loss, however, being insignificant.

"I am now using for almost all cases, as a means of sterilizing the operator's and assistants' hands, ordinary flour of mustard, * * * the process being about as follows:

"With a nail brush the hands are thoroughly scrubbed with green soap, then it is rinsed off. A teaspoonful or so of the flour of mustard is then put on the hands with a little water and thoroughly rubbed into all creases and parts about the finger nails, and thus manipulated for three or four minutes. The result is the most perfect sterilization of the hands, with the least immediate after-disturbance of the skin that can possibly be produced by any means known to me. You will remember that the oil of mustard is one of the most powerful antiseptics known; in fact, all of the aromatic oils share this property with it. Quite recently I have seen cinnamon recommended in the same way, and I have no doubt that powdered cinnamon would be as good as mustard, but not so easily procured. One advantage of the latter is that it is at hand in almost every household. It is more than an ordinary antiseptic. * * * Mustard can always be recommended as a deodorizing agent when the hands have become contaminated with any foul-smelling material. For my own part, I shall have no fear in going at once from the dead room to the operating table, providing my clothing carried nothing, if I could resort to this means of disinfection and sterilization.

"It is, in my estimation, extremely desirable to have a good combined styptic and antiseptic. For this purpose I most highly recommend to you a 5 per cent. solution of antipyrin. This I have used for several years, after having first carefully tested it as an antiseptic. In solution of this strength it is a fairly powerful germicide, and if once carefully prepared with sterilized water, and kept protected from ordinary atmospheric contamination, can be used with impunity so far as danger of infection is concerned. As a styptic it is more powerful than any medicinal substance with which I am familiar. I have used it on and in the brain, on and in the abdominal viscera, have injected it into the bladder, have used it in the nose, in fact, in any and every place where oozing has given me any trouble, and have learned to have a firm faith in its valuable properties. In my clinic I have always at hand a spray bottle from which it can be sprayed upon any oozing surface, and it is used almost daily. To many others, at home and abroad, I have demonstrated its properties in this direction, and have never known it to give anything but satisfaction."

Dr. C. H. Mastin, Mobile, Alabama:—"As to antiseptic formulæ, I rarely, if ever, confine myself to any one special formula. Sometimes I use mercuric bichloride, sometimes hot water, and now and then Thiersch's boro-salicylic lotion; this last I prefer in abdominal sections. When I use mercuric bichloride, I use it as the case may be from 1,000 to 12,000 strength.

"I never use 'protective' unless in those cases where I resort to a moist dressing, and then I use oiled silk, waxed paper, or thin rubber. I do not see any special advantage of Lister's macintosh over any one of the substitutes I have mentioned. Before all operations I have the skin clean, using green soap with brush to scour it thoroughly, then mercuric bichloric, 1:1000, 1:2000 or 1:5000, as the case may seem to require; then wash it off with boiled water and alcohol or ether. *I attempt to clean the parts.* In other words, I render them as near aseptic as possible, and rely more on this than the antiseptic lotions, chemicals, etc., which are so extensively used."

Dr. Theo. A. McGraw, Professor of Surgery to the Detroit Medical College; Surgeon to St. Mary's Hospital; Surgeon to the Harper Hospital, Detroit, Mich.:—"I have little faith in antiseptics *except for prophylactic purposes.* I aim to keep my wounds aseptic, and am fond of the dry method of operating. Usually before operating, I have the skin shaved with soap and water, then with ether, and finally with a 2 per mille solution of corrosive sublimate."

Dr. Frederick H. Gerrish, Surgical Instructor to the Portland School of Medicine; Professor of Anatomy to the Medical Department of Bowdoin College:—"I use carbolic solution for the instruments, and sublimate solution for the hands and the field of operation, first scrubbing them with hot water and soap. Dry iodoform on the wound, and above this a voluminous dressing of sublimate gauze have served me so well for so many years that I feel little disposition to abandon them. Results have been so satisfactory with this treatment that I shall continue to follow the plan until there appears more reason than at present for a change."

Dr D. W. Yandell, Professor of the Principles of Surgery and of Clinical Surgery to the Medical Department of the University of Louisville, Ky.:—"The three antiseptics that I use in my practice are corrosive sublimate, iodoform and carbolic acid. The first and last I use in varying degrees of strength; the second usually in powder or on gauze. I do *not* use corrosive sublimate in abdominal sections."

Dr. E. H. Bradford, Instructor in Clinical Surgery to the Harvard Medical School; Visiting Surgeon to the Boston City, the Children's and the Samaritan Hospitals, Boston, Mass.:—"I can only say that I make use of very simple antiseptics. Corrosive sublimate (1:1000—1:3000), iodoform in powder, aristol in powder, and peroxide of hydrogen of various strengths. Carbolic acid is used, of course, and for ointments, aristol and vaseline."

Dr. J. McFadden Gaston, Professor of Surgery to the Southern Medical College, Atlanta, Ga.:—"In septic conditions, my reliance has been chiefly upon the fol-

lowing, giving preference in accordance to the case in the order named:—

"Labarraque's solution, with the addition of permanganate of potash.

"Lugol's solution, diluted with varying quantities of boiled water.

Carbolic acid, one ounce; glycerine, three ounces and boiled water, one pint (more or less, to suit the case).

"Spirits of turpentine, one ounce; camphor, one drachm, for first applications and afterwards, with addition of like quantity of olive oil.

"Peroxide of hydrogen is often employed as preparatory to other measures.

"My use of corrosive sublimate is limited to cleansing the skin in the field of operations."

Dr. Henry R. Wharton, Demonstrator of Surgery to the University of Pennsylvania, Philadelphia, Pa.:—"I fear I have no special antiseptic formulæ. I use bichloride solution (1:2000 or 1:4000) and, in special cases, boiled water for the irrigation of wounds. I use largely, in antiseptic dressings, the modified moist method; that is, applying next to the wound a few layers of gauze, wrung out in bichloride solution, over this a pad of dry bichloride gauze, and over this a pad of bichloride cotton and a bandage. I also frequently use dry sterilized gauze, and think my results with it are equally good."

Dr. J. E. Michael, Surgeon to the University Hospital; Consulting Surgeon to the Presbyterian Eye, Ear and Throat Hospital, Baltimore, Md.:—"My method is to have the surface of the field of operation thoroughly cleansed with soap and water, then treated with ether or alcohol and recleansed, after which I have the part covered with a moist dressing of 1:1000 or 1:2000 bichloride solution for several hours prior to operation. I do not believe there is any necessity for applying an antiseptic solution to fresh tissues during an operation, but place my main reliance upon cleanliness and thorough disinfection of the seat of operation, as well as of hands, instruments and all other matter likely to come in contact with the wound.

"My dressings are mainly simple sterilized gauze or iodoform gauze. In obstetric practice, save in the preventive preparation of the external parts involved, upon the lines laid down above, I make no use of antiseptics in normal cases In instrumental and manipulative cases I depend upon douches of sublimate solution of the strength of 1:1000 to 1:10000, depending upon the parts involved."

Dr. George Wiley Broome, Dean of the Woman's Medical College; Professor of Surgery to the Woman's Medical College; Surgeon to the Woman's Hospital, St. Louis, Mo.:—"The following are some of my favorite formulæ:

℞ Collodii, - - - - - - fℨiv.
Hydrargyri bichloridi, - - gr.j.
M.

Sig. To be used with a brush over stitches and incision so as to seal wound.

℞ Acidi Borici.
Bismuthi subnitrici, - - aa ℨij.
M.

Sig. To be dusted on the incision very profusely so as to cover up the stitches.

"Recently an excellent powder for the dry treatment of wounds has been put before the profession in a most convenient form under the name of Sennine."

The author himself will add that he has secured with the dry dressing which Dr. Bernays mentions (Sennine, a combination of phenol and boric acid) most exceptional results in cases amenable to dry treatment—indeed, in one case of accidental incised wound of the hand in which he was himself his own patient, the process of repair was naught less than an ideal one. These results, as we have previously noted, have been corroborated by a large number of eminent medical gentlemen.

We may summarize some of these statements and researches as follows, bearing in mind that this is by no means complete otherwise:

Carbolic Acid.—Gussenbauer, Esmarch, Lister, Annandale, Senn, Bartou, White, Chiene, Horsley, Gerrish, Gaston, Hunt, Keen, Yandell, Bischoff, Bar, Fritsch, Winckel, Lucas-Championniere, Kocher, Gerster, etc. *Used exclusively by:* McGraw, Michael and Wharton.

Corrosive Sublimate.—Czerny, Gussenbauer, Esmarch, Keen, Barton, Hunt, White, Bernays, Michael, Wharton, Bradford, Gerrish, Gaston (only for the purpose of cleansing the skin in the vicinity of operation), Senn, McGraw, Yandell, Harrison, Gerster, Mastin, Kocher, etc. *Used exclusively by:* McGraw, Mitchell and Wharton.

Iodoform.—Esmarch, Czerny, Gussenbauer, Michael, Bradford, Gerrish, Yandell, Barton, White, Mastin, Gerster, Kocher, etc.

Sennine.—Broome, Yarnall, Bernays, Heine Marks, Mastin, Martin, Morse, Buchanan, etc.

Boracic Acid.—Harrison, Mastin, Bernays, Kocher, Buchanan, etc.

Iodin.—Senn, Bryant, Gaston, etc.

Bismuth Subnitrate.—Esmarch, Kocher, Bernays, Mastin, etc.

Hydronapthol.—Park, Flower, etc.

Salol.—Esmarch, Harrison, etc.

Hydrogen Peroxid.—Bradford, Gaston, etc.

Aristol.—Bradford, Maston, etc.

Iodol.—Esmarch, Bryant, etc.

Mustard.—Park.

Antipyrin.—Park, etc. (Used as an antiseptic styptic.)

Double Cyanid of Zinc and Murcury.—White, etc.

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Some of the More Reliable Therapeutic Measures in Severe Hemoptysis.

Many remedies have been recommended to arrest hemorrhage from the lungs, the efficacy of which seems to depend upon delusion, upon a post hoc and not a propter hoc. To this class of remedies belong, in our opinion, ergot, alum, iron spray, gallic acid, and many others. Judging from our own experience the hypodermic injection of sulphate of atropia, $^1/_{100}$ to $^1/_{60}$ grain, has given the most satisfactory results in checking severe pulmonary hemorrhage in phthisical patients. Taking into consideration the physiological action of this drug we are at a loss to account for its hemostatic action, for it does not reduce, but increases the general blood-pressure, unless it be administered in dangerous doses. Possibly, however, it acts by contracting the blood vessels or by producing a hyperemia of the peri pheral parts of the body, particularly the skin, thereby withdrawing a corresponding quantity of blood from the lungs.

Any procedure which will reduce the blood-pressure must necessarily have a beneficial effect upon hemorrhage from the lungs, and a mechanical method of obtaining this result, which has been recommended by various authors, is the constriction of the extremities by a bandage to such an extent that the venous circulation alone is arrested. This method had already been used by Hippocrates and was revived by Seiz. The objections to it are the possibility of thrombi forming in the veins and being carried to the right side of the heart and thence into the pulmonary artery and the comparatively sudden increase in the blood pressure upon loosening the constrictions, which may cause a recurrence of hemorrhage.

The prompt effect which is sometimes produced by the administration of morphia must be attributed to some extent to a diminished blood pressure, the allaying of any irritation in the air-passages, however, aiding considerably in the hemostatic effect of this drug. The favorable results obtained with chloroform water are in all probability also due to the same physiological process, the reduction of the blood pressure.

Chloral hydrate is another drug which reduces the blood-pressure and its effects upon hemorrhage from the lungs in phthisical patients has of late been observed by Dr. J. Pal, of Vienna. The drug was injected into the rectum in doses of fifteen to twenty-five grains. The result was that in several cases the hemorrhage stopped completely one-half to three quarters of an hour after the injection. In other cases the hemorrhage returned in eight to twelve hours, in others again it was only diminished in quantity without ceasing entirely. Of great interest is the fact that the cessation of hemorrhage only took place in cases where a perceptible diminution of blood-pressure was observed. The results are sufficiently encouraging to justify its use in cases of hemoptysis, of course taking into consideration that any remedy which reduces the blood-pressure cannot be used in cases complicated with heart-disease.

Of as much importance as any drug is, as near as possible, absolute mental and physical rest (the latter including the proper diet) and the application of an ice-bag to the bleeding spot.

The Effect of Iodoform on the Tissues.

The beneficial effects of iodoform upon tuberculosis of the joints as well as any other form of surgical tuberculosis are well known to every surgeon, but its mode of action in destroying tubercular growths has never been, to our knowledge, the subject of exact scientific investigation. That the iodoform acts after its elements have been separated by its reaction with the tissues with which it is brought in contact has been claimed and we think the view was generally accepted that when iodoform is applied to animal tissues iodine is liberated and in its nascent state acts as an antiseptic. It was a natural inference that in the case of tuberculosis the liberated iodin would destroy the tubercle bacilli of the tubercular granulations, but that this hypothesis is not correct has been proven by an exhaustive investigation by L. v. Stubenrauch, published in the *Deutsche*

Zeitschr. fuer Chirurg., in an abstract of which by the *American Journal of the Medical Sciences* we find the following statements:

The effect of iodoform upon the different tissues of the body, both normal and pathological, were carefully investigated. Observations upon man have been compared with similar experiments on animals.

The work is divided into four parts: 1. Historical. 2. Bacteriological. 3. Chemical. 4. Histological.

The author arrives at the following conclusions:

1. Iodoform is not an antiseptic in the true sense of the term, as is corrosive sublimate, inasmuch as it does not destroy bacteria by short contact. The investigations heretofore made upon several different bacteria have shown that iodoform only inhibited the growth of milzbrand and tubercle bacilli.

Iodoform probably possesses no specific anti-tuberculous effect. Experiments on pure cultures of tubercle bacilli have repeatedly shown that when the iodoform remained in contact for a long time the growth was arrested, but it was not possible to destroy the vitality or growth of fully virulent tubercle bacilli by contact with iodoform in the animal body.

The favorable results which follow the iodoform treatment in cases of chronic tuberculous abscesses must not be taken as unconditional proof of the specific anti-tuberculous (anti-bacterial) effect of iodoform. The bacilli which are contained in tuberculous abscesses die under the influence of iodoform, but it is not proven that the destructive effect is primarily due to the iodoform; there is a greater probability that the effect of the latter on the tissues, in connection with the experimentally proved slight anti-bacterial effect, has caused the destruction of the bacilli. Iodoform interferes with bacterial growth—if ever—in the undecomposed as well as in the decomposed condition.

2. The decomposition of iodoform can take place outside of the body as well as inside.

a. In solutions (ether, alcohol, or oil) or mixtures (water, gum, or glycerine) which are exposed to the sunlight. In the mixtuers, decomposition of iodoform takes place in a warm place even if light be excluded, the rapidity depending upon the degree of the temperature. The effect of live steam on iodoform mixtures or emulsions is to separate certain quantities of iodine (and hydriodate) and form new compounds, or they remain free, according to the nature of the different organic substances which are present. The quantity of iodine which becomes liberated from iodoform at 98° or 100° is according to the nature of the several vehicles, and the greater or less excess of air, but is independent of the form of the preparation. Considerable decomposition takes place in iodoform by the heat of live steam in glycerin.

b. Iodoform is further decomposed outside of the body by the liberation of hydrogen, and further through reducing substances—as, for example, powdered zinc, silver—and also through neutral nitrate of soda (with the addition of heat), and finally through the products of the bacteria (ptomaines). Inside of the body there is decomposition of iodoform in considerable degree, especially in wounds in which there is active reduction (and where ptomaines are also present), in the cellular tissue under the skin, in the intestinal tract, the great cavities of the body, etc. With the albumen of the tissue juices the iodoform unites to form iodalbumin, which when liquid may be absorbed; if not, it decomposes further. The iodoform leaves the body in the form of soluble combination. The local as well as the general effect of the iodoform is a protracted iodine effect.

3. Iodoform acts on the tissues of the body, however, only if it is decomposed. Locally as well as from the blood it acts on glandular organs to such a degree that degenerative decay of the epithelial elements takes place. In this way the local application of iodoform to the kidney produces a degeneration (fatty) in the epithelium, and also a decay (fatty) of the cells in the kidney, liver, and other organs, if the iodoform has produced a general effect. All pathological new formations are influenced in a high degree by iodoform. Iodoform stops the formation of giant cells in the tissues in the neighborhood of a foreign body.

In serous cavities it causes coagulation of albumin, which, if the conditions of absorption are favorable, soon disappears. If the iodoform becomes decomposed and if certain products of decomposition remain for a long time in the cavity in consequence of unfavorable conditions of absorption, as in hydrocele, etc., then these (products of decomposition) are capable of causing an inflammation in the walls of the cavity. The effect of this is a transudation which coagulates, becomes organized, and cure results by the formation of connective tissue.

On tuberculous tissue iodoform acts probably by hastening the decay of the epitheloid cell collections which are destined to degeneration, while the more resistant of the epithelial elements is prepared for a change into healthy tissue.

MEDICAL SOCIETIES

Cincinnati Obstetrical Society.

STATED MEETING, JUNE 28, 1894.

Dr. Rufus B. Hall made a report of

Four Cases of Typhlitis.

Dr. Bonnifield.—I had a case of appendicitis last winter that I had intended to report systematically at some time, but the last remark of Dr. Hall causes me to report it now. The patient was a boy, ten years old, whom I was called to see Christmas morning. He went from bad to worse, and in twelve hours had a general

peritonitis; pulse about 130, and could not retain nourishment or food of any sort. Dr. Forchheimer was called in consultation. We discussed the advisability of operation, but neither of us were very much in favor of it; I in particular was not. At any rate, it was postponed until the next day, when we got his bowels to move. He then began to retain nourishment, and in about four days he was convalescent, and in a week I did not think it necessary to see him for a few days. When I came back I found a temperature of 101°, and this continued about a week. I made an examination for pus, but I was unable to feel anything through the abdomen or the rectum, and with nothing but the high temperature to indicate it I did not feel justified to make an operation. There was some pain over the liver, but not very marked. About twelve days later his temperature ran up suddenly to 104°; I was telephoned for, and just as I got to the house they told me he had a very severe spell of coughing. I went up to his room, and found he had been discharging pus through the lungs. His temperature then fell, and in a week it was normal. In the face of the general peritonitis I do not think operation would have been justifiable.

After the temperature continued high I would not have explored the liver, and think probably the abscess was above the liver. The liver was not specially enlarged at any time. Opening the abdominal cavity would simply have made it worse.

DR. HALL.—What was the diagnosis of the first attack?

DR. BONNIFIELD.—Appendicitis.

DR. HALL.—Could you outline a tumor?

DR. BONNIFIELD.—The colon seemed to be filled with feces; you could map out an area of dulness.

DR. HALL.—Your diagnosis was correct, I presume; what was the action of the abscess?

DR. BONNIFIELD.—Acute general peritonitis.

DR. HALL.—Septic in character?

DR. BONNIFIELD.—I do not think it could be called a metastatic abscess.

DR. PALMER.—His marked improvement was after the discharge of a quantity of matter?

DR. BONNIFIELD.—Yes, sir.

DR. JOHNSTONE.—This is very interesting, and the one point I am glad to hear brought out and special stress laid on is not to operate while the intestinal canal is stretched to its full extent. I do not think any man is justified in making a laparotomy under those circumstances. One case of appendicitis, which some of the gentlemen present saw with me, turned out to be just a common colic caused by the fellow eating apples. No appendix was found, but the man got perfectly strong and well. I believe sometimes the appendix may slough out through the bowel and a chronic peritonitis left, which may be cured by an exploratory incision. In this case no appendix could be found. The colon was laid open from the ileo-cecal valve to the head; there was a blotch of cicatrices everywhere, and we had to separate a number of them. After I had gotten back it seemed as if we were going into the normal parts, and I stopped. There seemed to be some secretion, but this I found to be only the contents of the bowel. I took the drainage tube out about the second or third day, and the serum poured for about a week. He came back in a few weeks and I did not know him; he said he had earned the money in a brick-yard to pay for the operation.

My first operations in this line were upon two negroes down south. They were close together, and are living to day. I have seen men who no doubt had one attack of appendicitis; everything was asked to make the diagnosis perfect, and they are well to-day; so, I am not prepared to go to the same extent the New York Academy does. But the second attack always calls for operation. It is then time for us to go to work. If the first attack is mild, I think it is safe enough without operation. I had an experience with a little girl, aged thirteen, who had menstruated her second time and completed it on Wednesday. The following Sunday she had jumped the rope, and had some pain, but did not call the doctor until the following Wednesday. I saw her about one o'clock and ordered her to the hospital. I found she was in shock, the temperature below normal (about 68°), and I ordered a cathartic. The next morning the temperature had risen a little, and I saw the child was going to die unless something was done. I made the effort, simply going through the abdominal wall, and I found a lot of feces, enteroliths, etc., and she died that afternoon. In these cases the gas must be removed before the patient is safe, and the whole question simply resolves itself into whether it is easier to do this before than afterward. I do not think it is safe to cut into the abdomen in any case before this is done, except in cases of stab wound. In the first laparotomy of my old assistant, down at Danville, the case was caused by the blow of an ax handle. In that case the bowels continued distended, and it was perfectly apparent that unless something was done the child would die. I assisted him in opening the abdomen, and we found nothing but a dry peritonitis and an enormously distended canal. When the intestines were gotten out we could not return them without opening them, and so we made an inch opening in the intestinal canal and let out all the gas and feces we could possibly get out that way. He made a beautiful recovery, which I think was due to the drainage. The introduction of the drainage tube started the serum to flowing, and it just poured for several days. In proportion to the pouring of the serum was the improvement of the child. Of course the difficulties of peritonitis we know. We often find these cases with adhesions. I do not think the appendix is put there for nothing, but that it is after all only a hollow lymphatic gland; it is simply a single continuous Peyer's patch and the volume of the serum I think is increased. It is there, and I do not think we have a right to take it out every time we find it. In the last year I have had the appendix in my hands three times, and several times

have had to ligate the adhesions and take them away. Now, when the appendix is perfectly normal, except from inflammatory bands which have come from the tubes and ovaries, I cannot understand why we should consider it necessary to remove it. I saw a normal appendix exhibited in the New York Academy, taken out just because the gentleman had his hand on it. I do not think we should hunt for the appendix in cases of abscess. In the case I had within the last week or ten days, a large abscess of the ovary had been discharging throught the alimentary canal. It had continued a year or two. I got the ovary out, but could not get the tube out without wounding the intestines. I expected to curette the case afterward. I found the sinus had gone down to the broad ligament, and then out into the intestine. It has made an uninterrupted recovery. I think when we find the thing we are after to save the life of the patient we ought to quit, and that is a law we ought to follow more closely. My old professor used to say, "Boys, don't muss and muddle; don't go too far, because every time you touch an intestine or break an adhesion you add that much to the risk, and the thing to do is to do as easily and smoothly as possible the one thing you go after, and leave the rest alone."

Dr. Wenning.—I have not had any personal experience, and came just to learn, but one remark of the last speaker brought a query to my mind; whether in some cases with accretion, instead of removing the appendix would it not be possible by pressure to force the substance into the main gut, and leave the appendix alone? I have not my mind definitely made up as to the proper treatment of these cases. Certainly the medical aspect has something in its favor. I am sure many cases are cured by medical treatment, and before we determine what is the proper line of treatment we ought to listen to the medical side. I would like to hear Dr. Cleveland's view on this question.

Dr. Cleveland.—My opinion, based on my own limited observation, is that the majority of cases of appendicitis get well. I think very likely every practitioner has a number of cases of appendicitis, and it is only now and then that we find it necessary to call in assistance to operate for us. In fact, in twenty-five years I have never had a case that was operated upon. In one case it would have been very fortunate had I called in a surgeon, but in that case I did not fully realize what I had to deal with until it was too late. I can recall some three or four cases that have entirely recovered without operation. The statement has been made by experienced men, and I do not doubt it, that when the appendicitis appears more than once it is probably well to operate. While I am not in a position to contradict that, still I am of the opinion that frequently even these cases get well without operation. One case especially, which I have in my mind, a man probably 35 years of age, had some three or four distinct attacks of appendicitis. At one time I advised an operation, but after a series of weeks he recovered. He simply had an acute attack of pain, a localized peritonitis around the region of the appendix, and it lasted three or four weeks. It was not like the fever we have when pus is present, and if there was any pus I did not discover it. He is now perfectly well and is doing his work.

I had another case, which occurred in a woman, showing that these cases may be cured sometimes by simple puncture. She had one or two attacks of appendicitis, and I wanted her to be operated upon—insisted upon it, in fact, because I thought otherwise she would die. After two or three weeks, the peritonitis not becoming general, I could feel a fluctuating tumor, and I was so well satisfied that I had felt justified in sticking a knife into it without saying anything to her about it. Afterward I increased the opening and washed it out. I mention this case to illustrate an experience which I expect others have had, namely, that the appendicitis has softened in some cases so they have thought best to stick a knife into it. I have had another case which resulted the same way. Our judgment in these operations is to a large extent influenced by what we see. The general practitioner only sees the cases which come under his own observation, while the specialist sees not only his own but also the cases coming under the care of others. I feel satisfied, from what I read regarding the operations in the East, that they are certainly carrying things too far and operating too freely; notwithstanding these patients usually recover, I do not think it is an easy operation by any means. The point I would make is that the majority of cases of appendicitis got well under the medical treatment, and only the serious or worst cases come under the observation of the laparotomists.

Dr. Jonstone.—I remember, while practicing in Kentucky, I went down in the mountains, in that ignorant, Egyptian land, and I found a patient who was not only pregnant but had a large lump in the groin. They would not let me touch it, and I returned home. The doctor wrote me in three or four months the result. She got well, but with the thigh drawn up. She would not let him touch it, and it dissected away up the side and down the thigh, and it discharged about two gallons of pus. At the time of her confinement the leg was drawn up in such a position that it was difficult to get the child out. This illustrates how nature will sometimes bring these patients through, but with what deformity! When cases have the second and third attacks of appendicitis, the percentage of recovery is very greatly reduced. But when we find it is safer to operate than to let the patient alone, I think a man is a simpleton not to go ahead and operate.

Dr. Hall.—Certainly no man would take off an appendix which was healthy, unless he resided in New York. I have frequently pulled them off from adherent pus tubes or suppurating ovaries and pushed them out of the road. I simply pulled them off as I would an adhesion with any other organ, as a coil of the intestine, for instance, and let it be. I removed one appendix,

however, that was fairly healthy, except it was adherent to a large fibroid tumor. I have reported this before. I did not recognize it as the appendix, but mistook it for a vessel. I put it in a clamp, because the blood from it squirted over my head. The patient recovered. That is the only time I have ever been guilty of removing a healthy appendix. I think the suggestion by one of the speakers, of pushing the accretions back into the gut, is a very problematic one. In fact, in all these cases that we are called upon to operate there is an inflammation actively going on, and the narrowest caliber is to be found where the appendix joins the gut. In the first case reported the physician had several foreign bodies in the appendix. There was a sort of cartilaginous portion near the intestine, through which there could be found no hole whatever, and I think it would have been perfectly safe to have cut it off without any ligature whatever. I will grant if such a thing could be done, it would be perfectly safe to do so, but I think we would very rarely find a suitable case. I have never considered the question to any great extent, but it has never occurred to me that that would be a good way to treat these cases. In reference to the medical treatment, I think we all agree with Dr. Cleveland, but I think we should get together, and medical men should refer the cases for operation before they reach the autopsy table. After they have had a second or third attack, especially if those attacks occur at short intervals and are severe, there should be no question about operation. I believe they should all be operated upon. I have the record of a case, however, which has recovered now five or six years after the ninth attack in two or three years. The patient learned to lead an invalid life, because exercise would bring on the disease, and nature cured the case without operation. I have the complete records of one case that had seven or eight exceedingly mild attacks and then had an exceedingly severe attack and went to the graveyard. When I saw her it was impossible to count the pulse, and she died in an hour or two afterward. I have not reported these cases for the purpose of drawing a line between those cases which should be operated upon and those which should not be operated upon, for I consider that each case is a law unto itself, and the party having the patient in charge must be the judge.

DR. CLEVELAND.—How young a child can have appendicitis?

DR HALL.—I have operated upon one nineteen months old.

Living Anatomical Charts.—The British War Office is considering the advisability of instructing all soldiers in Her Majesty's service in the principles of first aid to the injured. Some genius has offered the startling and original suggestion that every soldier should have the leading arteries mapped out on his body by dotted lines tattooed in India ink, so that any of his companions may be able to arrest dangerous hemorrhage should be chance to be wounded.

ABSTRACTS

MEDICINE.

On Some Fatal After-Effects of Chloroform on Children.—Under the above title Dr. L. G. Guthrie (London *Lancet*) calls attention to ten cases, giving necropsies in eight out of the nine fatal cases. He calls attention to the necessity of not attempting to rouse the child, unless collapse is present or the breathing becomes stertorous and the face dusky. Warm the bed with hot bottles, keep the room dark and cool. Turn the head on the side on a low pillow, and carefully watch for accidents, such as entry of vomit, or falling back of the tongue into the glottis. He relates a case where these precautions were not taken, and chancing to look around saw that the child had stopped breathing, the jaw had dropped, and she was rapidly becoming cyanosed. The head was turned to one side, the chin drawn forward, and the danger was soon over. Solid food should not be given until three or four hours have elapsed. Vomiting, unless frequent, persistent, and exhausting, after six or eight hours have elapsed need not be checked by drugs. Sipping very hot water or sucking small pieces of ice usually suffice. Liquor calcis saccharatus may be added to the milk in the proportion of two teaspoonfuls to the feeder, enabling it to be retained. Lime is itself a cardiac stimulant, and Brunton has shown the act of sipping also stimulates the heart. If vomiting persists it is necessary to feed by nutrient enemata. If needed bromide and chloral may be added. Enemata should be small. While recommending opium Mr. Gurthrie admits that after the effect subsides the vomiting recurs with greater intensity. (Nothing does more good than a mustard plaster over the region of the stomach until the skin is thoroughly reddened.) Children often on regaining consciousness commence to utter piercing cries and continue to do so for many hours. In many cases this is due to pain, or to a tight bandage, or to a constrained position; but often no obvious cause can be detected. The child denies pain, or else declines to say where the pain is located, although sufficiently intelligent to do so. I have known a child to scream almost incessantly throughout one night and the greater part of the morning following an operation, without apparent cause. The bromides, chloral, paraldehyde, and other remedies were without effect, but she eventually became quiet and slept after an injection of morphia. The symptoms did not recur, and in this and many other cases no evil consequences ensued, but occasionally screaming and vomiting become symptoms of the gravest charater.

In this paper ten such cases, nine of which were fatal, are recorded and discussed. The condition resembled that of acute delirious mania. Shrill, piercing screams

are uttered at short intervals. The eyes are dry, the pupils often dilated; the face is sometimes flushed, sometimes pale, and has a look of wild terror and anxiety. There are almost always great restlessness and sleeplessness, the patient tossing and struggling, and requiring constant attention lest the dressings should be torn off or fractured bones displaced. Consciousness is sometimes lost early, and in some cases never regained; but, as a rule, there are intervals in which the child appears to be dull and apathetic, yet answers rationally when addressed, and usually denies that it is in pain. Sometimes in the height of the excitement it may be soothed for a time, but the screaming will soon recommence. Headache does not seem to be present, at all events it is not complained of. Grating of the teeth has been occasionally observed, and in one case the pupils were unequal shortly before death; strabismus absent; vomiting violent, copious, persistent. The vomit, when the stomach was empty, is clear or yellowish, but for the most part it exactly resembles the dregs of beef-tea. It answered to Gmelius' test for bile pigment. In incessancy, volume, and character of the vomit it resembles the vomiting which accompanies cerebral disease. It was either acid or neutral. The temperature generally falls to 97° or 98° after operation. A temperature of 95.8° to 96° was noted only in one case, and this was the only one which recovered. The temperature undergoes several rises and falls and is commonly above normal at the time of death. In two cases it reached 103.2° and 104 6° just before death. The others varied between 99° and 102°. Death, as a rule, is owing to gradual exhaustion, the screams become less powerful and are uttered at longer intervals, the vomiting less violent, unconsciousness leads to coma, respiration and pulse gradually fail, the latter often being imperceptible for a considerable time before the breathing ceases. The type of breathing is that which is common in cases of death from gradual respiratory failure.

Although the symptoms in all but two of these cases strongly resemble each other in their peculiar cerebral character, and although there was one factor common to all, namely, that an operation more or less severe and lengthy had been performed under chloroform, yet it is by no means easy to attribute these deaths to a common cause. The possible causes of death may have been (1) shock with excitement, (2) carbolic acid poisoning (in all but two cases), (3) iodoform poisoning in one case and mercurial poisoning in two, (4) pre-existing pathological conditions, and (5) the remote effects of chloroform.

Having thoroughly studied the cases from the results of the necropsies, the following admittedly theoretical explanation to account for these fatalities after operation, by supposing:

1. That these deaths (in all but two cases) were due to auto-intoxication.

2. That a fatty condition of the liver and therefore functional disturbance of the organ existed before the operation.

3. That chloroform and operation-shock combined aggravated the condition already present and thus loaded the system with toxic alkaloids which the kidneys were unable to eliminate.

The practical results of such views are:

1. That in no case should chloroform be given to patients suffering from fatty liver.

2. That, as it is imposible from physical signs and symptoms to do more than surmise the existence of fatty liver, we must rely on signs of functional inactivity of the liver, as indicated by the excess of alkaloidal substances present in the urine.

3. That the precise nature of such alkaloidal substances and the best methods of detecting them must be left for further investigation.

In a letter Dr. W. W. Cheyne (London *Lancet*) concurs with Dr. Guthrie in his views as to the cause of death being in all probability due to carbolic and mercurial poison, as they were using those drugs freely at that time, and since discontinuing their use they have had no more mysterious deaths.

The Causes and Treatment of Infantile Diarrhea.—The *Journal de Clinique et de Therapeutique Infantiles* for May 24 publishes a paper on this subject by Dr. G. Variot in which he says that the majority of infants who are attacked with diarrhea and vomiting are those artificially fed, or those who are given solid food at a time when their digestive organs have not attained their full activity and power. Where there is hereditary syphilis or scrofulo-tuberculosis, the children are more susceptible to digestive troubles, as these affections greatly impair the young organism, the digestive organs of which are in a constantly changing condition. In these cases diarrhea is only an epiphenomenon, and it is not astonishing if it resists the usual means for combatting it, for it may be combined with tuberculous lesions of the intestine or of the mesenteric ganglia.

Children nursed exclusively at the breast are rarely attacked with persistent diarrhea, although, even in this case, too frequent nursing will cause a gastro-intestinal dyspepsia, accompanied by repeated vomiting and diarrhea. A constant change also of wet nurses is, again, a cause of this affection in infants.

With regard to solid food, physicians have insisted that milk is the only diet for infants, but it seems almost impossible, says Dr. Variot, to impress this simple fact particularly upon the common people, who, in France and in America, according to Dr. L. Emmet Holt, obstinately cling to the idea that the sooner the children are fed on solid food the quicker they will grow. It is generally admitted that food should not be given to infants before dentition occurs. At this age the salivary and intestinal glands are powerless to saccharize the starchy substances, which irritate the mucous membranes and undergo injurious fermentations.

In some cases which had come under the author's observation, where solid food had been given to the children, the abdomen was distended and dilated, and at the linea alba there was a true eventration, so that one or two fingers could be introduced between the two recti muscles, and this eventration indicated that the abdominal wall had been in some way forced open by the flatulent distention of the intestines. This flatulence was without doubt connected with the abnormal gaseous fermentation of the starchy substances.

Another cause of diarrhea in infants is the quality of the milk, which is often inferior, and the milk which is sold to the poor, especially in large cities, is often dirty and adulterated. Much sickness and many deaths are also attributed to the use of the nursing bottles with long rubber tubes, which are so difficult to clean properly, and to the rapid alterations of the milk, into which the breath of the child is constantly passing; the milk also is often diluted with impure water and contains septic germs which provoke very dangerous fermentation. The statistics of death from diarrhea, drawn up by different observers, all go to show that the mortality is greater in June, July and August, and at this time the digestive organs should be carefully watched, particular attention being paid to the quality of the milk and to its sterilization; if necessary, the quantity should be somewhat reduced at each meal. Some writers have observed epidemics of diarrhea, and some cases of contagion. Although not much importance is attached to the latter, it is well, the author says, to take children to the country during hot weather. Another cause of diarrhea is dentition, the effects of which should not be neglected. The author does not share the popular idea that diarrhea from this cause is salutary and needs no attention; at this time the digestive organs of children should be carefully watched. As soon as the diarrhea appears the child should not nurse oftener than every three hours; if it is artificially fed the milk should be diluted with a third of limewater. Before the child nurses a teaspoonful of the following mixture should be given: Distilled water, two ounces; lactic acid, half a drachm; tannin dissolved in alcohol, eight grains; and syrup of quince, five drachms.

For a child fed artificially, the author always prescribes sterilized milk, and gives careful directions for the antiseptic cleansing of the bottle. The best proof, he says, that diarrhea, if it is treated from the first day of its appearance, is due to the bad quality of the milk, is that it yields to treatment in two or three days after the administration of sterilized milk. In some of the author's cases this was the only agent used to effect a recovery from attacks of diarrhea due to bad milk, toast-water, etc. If sterilized milk is properly prepared and of good quality, it is the best food for children artificially fed, as the sterilization destroys all morbid or noxious germs, and the author has observed that, as a rule, it is well borne by infants.—*N. Y. Med. Journal.*

Tissue Metabolism in Chlorosis.—There is a translation in the *International Medical Magazine* for April, 1894, of a lecture delivered to a private class by Carl von Noorden on "Tissue Metabolism in Chlorosis." The cause of poverty of hemoglobin in the blood must be due to increased destruction or diminished new formation of the coloring matter of the blood, or to a combination of the two processes. Not one positive sign is known which proves that in chlorosis more hemoglobin is destroyed than in health. Some distinct points lead to the belief that the normal quantity, and probably much less, is all that is destroyed. The defect is due to some error in new blood-formation. Some restricted exceptions exist in anemia caused by profuse acute hemorrhage and by acute nephritis. Here there is an edema of the blood. The plasma is so diluted that the blood-corpuscles swell up and appear relatively poorer in hemoglobin. In all processes which induce much destruction of this constituent of the blood, as infectious diseases and numerous intoxications, there is principally a destruction of cells (erythrolysis). For a time iron as a remedy fell into disrepute, in consequence of experiments on animals, and a few observations on man. These doubts were more often expressed by physiologists and pharmocologists than by practicing physicians. As there was no increase of iron in the urine after the administration of various iron preparations, it was argued that no iron was absorbed. The weak point of this reasoning is of interest. The intestinal mucous membrane is the place of excretion for the iron and not the urine, which is capable of removing only a few milligrammes. Iron which gets into the blood current accumulates in the liver and spleen, these organs, magnet like, attracting it. They are the warehouse of the body for superabundent iron, which is given off very gradually by these organs, and is removed by the intestinal juice from the body. How do the iron salts which are absorbed act as remedies? Is the chlorotic organism wanting in atoms of iron around which the hemoglobin molecule can be built up? Every girl developing chlorosis takes up in daily food more iron than the most extravagant estimate demands. But this iron is exclusively contained in nucleo-albumins. There is no doubt that the healthy organism takes up iron from nucleo-albumins and employs it for the manufacture of hemoglobin. Why does not the chlorotic patient do the same? Is absorption at fault? On the contrary, absorption is excellent. Iron is absorbed, but is not used. There is diminution of the energy of growth in the hematopoietic organs (bone marrow), resulting in the non-utilization of the ferruginous nucleo-albumins which are brought by the blood. So far everything is proved. Now for the region of hypothesis. Let us suppose that the iron salts circulating in the blood effect a stimulation of the hemopoietic of the medulla of bones, and that the result of this stimulus is an amelioration of the constitution of the blood. On the other hand, the nucleo-albumins containing iron which are circulating in the blood, exert but a weak stimulus on bone marrow. Experience proves that in the treat-

ment of chlorosis any iron salt is more efficacious than the ferruginous nucleo-albumins, like hemoglobin, hemogallol, etc., which pure theorists have tried to foist on the profession. Arsenic gives good results. Yet success is much greater when combining arsenic and iron. Practical experience proves this is the best plan. At health resorts, where there are carbonated ferruginous springs, resident physicians do not recommend these waters to chlorotic subjects, but advise the mineral waters of Levico or Roncegno, which contain arsenic and iron. These substances are closely allied chemically, and exert on the cells an effect that is only quantitatively different.

Idiopathic Hypertrophy of the Heart and Degeneration of Heart-Muscle.—An address upon the foregoing subject, given in abstract form in the *British Medical Journal*, April 7, 1894, was delivered at the International Medical Congress, in Rome, by Dr. S. Laache, of Norway. Idiopathic hypertrophy is defined as enlargement of the heart without obvious anatomical, or rather, mechanical obstacles to the circulation. The valves are either intact, or affected only by lesions in no wise proportionate to the clinical symptoms. The etiology presents some points of hygienic or social interest. The chief predisposing causes are heredity and those conditions which betray their influence by defective nutrition. Among determining causes the most important are alcoholism and excessive muscular exertion. Beer-drinking is the chief cause of pure idiopathic hypertrophy. Athletics have been considered the origin of much cardiac hypertrophy. It is now conceded that if the athlete is of proper age, properly trained, and abstains from alcohol, trouble with the heart does not necessarily follow a reasonable amount of indulgence in sport. Physical overstrain weakens the heart, and so does intellectual overpressure. Modern life in cities is not conducive to that mental repose which is necessary to secure normal circulation The hygiene of the heart is sadly neglected. Sudden death from cardiac trouble seems to be increasing in frequency. Yet often the diseased heart possesses a power of resistance that is almost incredible, and which led Haller in his day to apply to it the epithet *ultimum moriens*. In Pepper's "System of Medicine" Osler states that symptoms are not necessarily present in simple cardiac hypertrophy, since this is a conservative process and almost always an unmixed good. The pulse of hypertrophy not dependent on valvular lesion is usually firm, full and strong, of high tension, and regular. It may be increased in frequency, but often is normal. A frequent symptom is an unpleasant feeling about the heart, a sense of fullness and discomfort. Flushings in the face, noises in the ears, and headache are not uncommon. The course of an ordinary hypertrophy divides itself into three stages: the period of development, which varies with the nature of the factor in development; the period of full compensation, the latent stage, during which the heart's vigor meets all the requirements of the circulation, and this second stage may last indefinitely; and the third period is what is called the breaking of a compensating hypertrophy. It may come suddenly during extra exertion, and death follow from acute dilatation; or more commonly it takes place slowly, and results from degeneration and weakening of the heart-muscle, with consequent dilatation and all its evils. The treatment of hypertrophy consists largely of measures directed towards its maintenance in a degree proportionate to the extra work which the heart has to do. The utmost moderation in food, drink and exercise must be enjoined. Quiet and regular habits are imperative. Excesses of all kinds quickly lead to impairment of the heart's action. In the hypertrophy associated with arterial and renal disease a special danger exists in the tendency to rupture of vessels. Vigorous heart-beat with very high tension in the peripheral arteries indicates mischief which may be met by prompt measures to reduce the high pressure. A brisk cathartic may avert apoplexy, and the old-fashioned method of bleeding is often justifiable.

The Pathological History of Synovial Tuberculosis.—Recent examinations of about 300 specimens of diseased knee have led Konig to certain conclusions which he holds to be of great importance in their bearing on the pathological history of articular tuberculosis (*Brit. Med. Jour.*). Pending the publication of a large work on disease of the knee, he has thought it well to make these conclusions known in a contribution to the *Centrallblatt f. Chirurgie*, and also in a paper read at the International Congress at Rome. Synovial tuberculosis, he holds, whether occurring primarily in the membrane, or caused through infection from a deposit in bone, always begins with a sero-fibrinous exudation. This exudation is not to be regarded as a definite form of tuberculosis, as it may disappear without leaving any important changes in the affected joints. In most instances, however, the fibrin is deposited in successive layers on the articular cartilages and on the inner surface of the synovial membrane. The layers are thickest in those parts of the joint which are most capacious and most favorable to the deposit of fibrin. The deposited layers after a time become organized, the vessels in deposits on the synovial membrane passing directly into the fibrin, whilst those supplying the deposits on articular cartilage pass from the margin of the synovial insertion. This organization is speedily associated with the deposit in the fibrin of heaps of round and giant cells. The character of this organized deposit—whether fungoid, caseous, purulent or fibroid—depends on the activity of the morbid process, whilst the forms it takes in different cases and in different joints are influenced by such conditions as movement of the affected joint and intra-articular pressure. So long as the disease is progressive, every organized deposit presents on its free surface a layer of unorganized fibrinous material. The new-formed tissue, and not degenerated synovial tissue, forms at first the

fungoid or granulating masses of articular tuberculosis. Tubercle is primarily deposited in this new formed tissue, and passes from this to form secondary growths of a like character in synovial membrane, cartilage and bone. The so-called tuberculous ulceration of articular cartilage is regarded as being at first a passive process. Erosion of cartilage may be caused by a simple organized clot of blood just as readily as by tuberculous granulations. The bone is then attacked in like manner, and defects are formed which in size and shape resemble primary osteal deposits. The present teaching with regard to the occurrence and the frequency of primary deposits in bone must Konig holds, be completely revised Primary osteal deposits occur, he states, much less frequently than is generally supposed. In a number of specimens of diseased knee, shoulder and hip which have been recently examined, cavities which would hitherto have been regarded as due to primary tuberculosis of bone have really, in Konig's opinion, been formed by the erosive action of fibrino tuberculous and other organized new growth. In conclusion, Konig points out that articular cartilage and the articular extremity of a bone may be destroyed by a granulating ostitis originating in the subcondial osseous structure. This ostitis, the results of which may be confounded with those of tuberculous diseases, is not as a rule of tuberculous nature.

Mixed Infection in Pulmonary Tuberculosis.—Strauss (*Sem. Med.; Brit. Med. Jour*) disputes the dual nature of the etiology of pulmonary lesions in tuberculosis which recent microscopical and bacteriological research tends to establish. He asks if we are to regard the larger number of cases of pulmonary phthisis as due to a mixed infection in which the intervention of strepto- and pneumococci and the microbes of suppuration plays not only an accessory but an essential part, preparing the ground for the tubercle bacillus; that the latter most frequently acts only secondarily, provoking caseation in the inflammatory exudation caused by the other microbes; and whether, finally, the hectic fever, the cardinal symptom of phthisis, is to be regarded, not as due to the tuberculous process itself, but to a "septicemia," an infection of the streptococcus. These questions he answers in the negative, and gives the results of his own researches:

1. As to the condition of the blood in the hectic fever of phthisis. In the cases of thirteen patients in whom this was very marked, a very strict bacteriological examination of the blood was made. The blood was taken, not in the ordinary manner by pricking the finger and extracting a drop of blood under conditions where it is absolutely impossible to be certain of its non-contamination, but from the median cephalic vein in the bend of the elbow with a Pravaz's syringe. A larger quantity was thus obtained in a perfectly uncontaminated condition, and 1 cm. of this was sown in bouillon and on agar agar, with the result that the tubes remained persistently sterile in every case. The author draws attention to the fact that these results must be regarded as more reliable than those of Jankowski, who, using the drop of blood obtained by pricking the finger, always found strepto- or staphylococci in his cultures; also that the discovery of these organisms in the blood and tissues post-mortem (Petruschky) does not militate against their absence during life in the hectic period, seeing how readily micro organisms of all kinds find access to the tissues after death. At the same time, Strauss does not deny the possibility of these organisms sometimes being present, but he denies that they are essential to the condition. He suggests that the experiments with tuberculin fully vindicated the pyretogenic powers of the products of the tubercle bacillus.

2. The part played by these accessory microbes in the actual pulmonary lesions has been exaggerated. A. Fraenkel and Troje, in their bacteriological examination of foci of acute pneumonic infiltration in the tuberculous were unable to detect the presence of stepto- or pneumococci either by coloration or culture. Strauss has been equally unsuccessful in most cases, and where these organisms were found they were destitute of virulence, so that their injection into animals was innocuous.

3. Further proof of his position Strauss believes to be furnished by the results of different methods of inoculating animals with tubercle cultures. If introduced into the vein of a guinea pig or rabbit, acute miliary tuberculosis of the lungs follows. If, on the other hand, it is injected into the trachea, the lesions are of the character of broncho-pneumonia; caseation and cavitation follow, and in microscopical examination the tubercle bacillus is found, to the exclusion of all other microbes. In conclusion, the author urges that the attempted restoration of the dualist theory of pulmonary phthisis on bacteriological grounds appears to be no more fortunate nor better justified than the anatomical dualism which long weighed so heavily on the history of tuberculosis.

Salophen as an Anti-Rheumatic.—The following observations were made by Drs. B. Ciullini and A. Viti, at the Clinic of Prof. Raimondi, at Siena, and under his supervision. On the ground of these studies thay consider salophen an excellent remedial agent, both in acute and chronic rheumatism, its advantages over salol and salicylate of soda being that it is tasteless, not hygroscopic, and devoid of unfavorable after-effects.

Case 1.—S. M., female, aged 48, married, suffering from chronic articular rheumatism. Complains in the joints especially of the right side, and also pains in the jaws; right knee slightly enlarged. January 26, salophen, 2.50 gm., was administered. Slight diaphoresis was produced, but pains continued of the same intensity. No after effects. January 27, Salophen 2.50 gm., given, with slight relief of pains. January 28, same dose; no change. January 29, same dose; pain and swelling somewhat relieved; administration of remedy continued in same doses until February 4, but as no im-

provement was observed, iodide of sodium was substituted which also failed to afford relief.

Case 2.—C. G., male, aged 59, had his first attack of acute articular rheumatism at the age of nine years, but enjoyed good health up to February 7, 1893. Entered the clinic February 13, with tumefaction and pains in all the joints of the lower extremity, especially the tibio-tarsal, and also in the shoulder and elbow joints. On following day salophen 3.0 gm., divided in six doses, at intervals of two hours. The first dose was followed by a profuse perspiration which lasted six hours. No disturbance of the stomach or nervous system. Pain in the joints rapidly relieved; patient slept well February 15, salophen 3.0 gm., no change. Feburary 16, daily quantity increased to 4.0 gm, divided in six doses. Profuse perspiration, pains slightly increased, no disturbance of stomach. February 17, remedy continued in same dose, and some improvement manifested, but pains reappeared during the night, especially in the tibio-tarsal articulation. During the following days, under same treatment, pains disappeared entirely.

Case 3.—P. R, female, aged 45, married; subacute rheumatism, swelling and pains in various joints, especially the ankle and knee. February 17, salophen 3.0 gm., in six doses. The first dose produced some diaphoresis, but no improvement. On the following day, dose increased to 4.0 gm., and same quantity administered until February 20, when the remedy was replaced by sodium salicylate, which effected a cure in four days. A recurrence of pains ensued, and patient was readmitted March 21. Under administration of salophen for seven days, followed by iodide potassium, complete relief was obtained.

Case 4.—S.S, aged 26, entered clinic March 29, 1893, suffering from pains and swelling in various joints, knee, ankle, hip and wrist, of subacute character. Salophen was administered for seven days, in doses of 4.0 to 5.0 gm. daily, reduced 3.0 gm., and produced rapid improvement, reducing the temperature and relieving the pains and swelling. Afterwards the cure was completed with iodide of potassium.

Case 5.—A. C, aged 22, male, had suffered from repeated attacks of acute articular rheumatism. Admitted to the Clinic May 12, with severe pains in the arms and shoulders due to subacute rheumatism. Salophen administered, 4.0 gm. in five doses, at intervals of three hours. Pains relieved, slight diaphoresis, no digestive or nervous disturbances. The dose was increased to 5.0 gm. daily, and after five days employment salophen was replaced by salicylate of soda which acted more energetically and completed the cure.

Case 6.—M. V., aged 29, female, admitted to Clinic June 23, with subacute articular rheumatism of the joints of the upper and lower extremities, especially the elbow, wrist and knee. Pains and swelling were present. Salophen 1.0 gm. every three hours was administered, the first dose being followed by prolonged sweating, but no digestive disturbance. On the next day, daily quantity of the remedy was increased to 6.0 gm. and pains relieved. The remedy was continued until June 28, when it was replaced by iodide of sodium which effected a rapid cure.

Case 7.—S. A., aged 47, male, married, had suffered from subacute articular rheumatism, with swelling of affected joints. Salophen 1.0 gm., every three hours, and continued for one week, afforded some relief of pains. Salicylate of sodium then substituted, and employed for about one month, with fairly good results. Later iodide of sodium and piperazine administered, but no complete cure obtained.

Case 8.—M.E., aged 35, admitted September 23; acute articular rheumatism of all the joints, pains, swelling and impaired mobility being present especially in left ankle and knee joints. Temperature 38° to 39° C. Salophen given for six days, in 1.0 gm. doses five times daily, and decided relief of pains and reduction of temperature manifested after two days' administration. Salicylate of sodium then given for three days, and patient left Clinic October 25, perfectly cured. In this case also, salophen showed itself preferable to salicylate of sodium, and acted as an efficient antipyretic and diaphoretic.

The author's conclusions are as follows:

Salophen is an active anti-rheumatic, better tolerated than salicylic acid and salicylate of soda and more innocuous than salol. In severe acute and chronic rheumatic affections it is somewhat less effective than the salicylates, and its chief indication is in the initial stages of acute arthritis and in mild or subacute cases. In obstinate or chronic cases it is advisable to follow its administration with that of iodide of potassium. The antipyretic action of salophen is not marked. In the intestinal canal it acts as an antifermentative, and it destroys the reaction of indican in the urine. Doses as high as 5 0 to 6.0 gm. pro die continued for several days are not attended with disturbances of any kind.—*Terapina Clinica*, April 4, 1894.

Blastoma.—This title has been given by Dr. Snow (Birmingham *Med. Review;* New York *Med. Jour.*) to certain obscure and strangely constituted tumors which refuse to fall into any of the recognized groups, but agree in being the offspring of fetal structures obsolete in extra uterine life. The development appears wholly spontaneous, as the natural outcome of some inherent force or law of development, while the non-congenital cancers of the adult are never found without the previous operation of one or other of certain recognizable antecedents. These rare formations exemplify a general tendency pervading all the organs derived from the Wolffian bodies, Mullerian ducts and germinal epithelium, the kidneys, uterine appendages, testes with their gubernacula, vesiculæ seminales, epididymides, prostate, vasa deferedtia, and cortical part of the adrenals. Less conspicuous are the organ of Giraldes, the vas aberrans of Haller, the hydatids of Morgagni, and the paroophoron. The rhabdomyoma of the infantile kidney is a most malignant blastoma. Huge masses containing

striped muscle blended with ordinary sarcoma tissue grow rapidly and prove fatal with metastases in lungs, liver, heart, peritoneum, etc. The fact that these are commoner in the male sex is explained by the further devolution of the Wolffian body and its correlatives in males. Congenital dermoid tumors of the ovary are much commoner than is usually supposed—ten per cent of ovarian cysts being wholly or partially dermoid, according to Greig Smith. The composition of these malignant dermoids is peculiarly complex and puzzling, insomuch that the special term "oophoroma" has been coined for them. Cell elements with little organization or regular arrangement prevail in the oophoromata of fetuses or very young children; toward puberty a higher organization is found, the cells being grouped in alveoli and various formed tissues being present; later on are large cysts with the usual heterogeneous contents. The thymus, parotid, and soft palate are not unusual sites for these growths. The polymorphism of malignant tumors springing from the thymus is explained by their development in two portions, one being composed of small lymphoid cells, the other of glandular epithelium. In the parotid, groups of embryonic cells pertaining to one or other of the branchial arches persist and prove the nidus of future tumor formation; relics of Meckel's cartilage account for the presence of that tissue. Bone, striped muscle, gland acini, embryonic connective tissue, and myoma tissue may also occur. The soft palate is prone to involve similar residua; hence dermoids, angeiomata, encapsulated masses of epithelium, and epithelial pearls. These often pass as "round-celled sarcoma," an ambiguous term including a variety of neoplasms, or as "cysts," or more commonly as "adenomata." An important section of embryonic inclusion cancers is constituted by the retinal gliomata of young children.

Of persistent fetal rudiments which more rarely prove the seat of tumor formation may be cited the pituitary body, pineal gland, and the remains of the six obsolete embryonic canals—viz., infundibulum, neurenteric passage, post-anal gut, craniopharyngeal canal, thyreo lingual duct, and vitello-intestinal duct. These are practically sequestrated portions of bowel, and hence the resultant tumors commonly reproduce the structural characteristics of the intestine blended with other abnormal ingredients.

In all probability minute sequestrated portions of fetal "blast" may persist throughout life without causing the least trouble. In some cases a certain amount of growth takes place with formation of a benign tumor. In a third class, after years perhaps of quiescence, a new growth is developed with the ordinary characteristics of cancer.

The characteristics by which blastomata may be recognized and differentiated are thus summed up:

a. Demonstratable origin from organs or structures which persist as fetal remains throughout extra uterine life—*e. g.*, the thymus, pineal and pituitary bodies.

b. Origin from vestigial structures, which normally undergo obliteration to a greater degree than the preceding, yet always have inconspicuous traces. Of such are the parovarium, Giraldes's organ, etc.

c. Origin from vestiges which but rarely persist—*e. g.*, dermoids, the "coccygeal tumor," with other derivatives of the six fetal canals, the umbilical "cylindromata" developed from a patent urachus.

d. Anomalous tumors, which appear at the site of the branchial arches, or other localities affected by the ordinary dermoid, and betray an embryonic origin by the possession of normal tissues in an abnormal situation. The familiar mixed tumors of the parotid are the best instance, and similar ones are less often seen in the testis, mamma, rectum, etc.

e. Those malignant lesions of early child life, which not seldom have commenced in utero and are bilateral—*e. g.*, rhabdomyoma, retinal glioma, oophoroma. No form of cancer simultaneously attacks in the adult corresponding organs on opposite sides.

f. Certain obscure growths, especially about nerve centers, probably own a congenital source and may be provisionally included in the group. Among these count the "plexiform sarcoma" of Billroth, with some, at least, of the tumors currently described as endothelioma, psammoma, columnar epithelioma, many cysts, sarcomata, angeio-sarcomata, etc.

g. The great majority of malignant tumors in young children, if not indeed all, must be referred to the class blastoma. The kidneys, bladder, ovary and genito-urinary tract in general furnish the most familiar illustration. Sometimes the organ attacked is, in the adult, especially exempt from cancer—*e. g.*, the adrenals, prostate and vesiculæ seminales.

The morbid anatomy varies widely. The most distinctive mark is a curious and perplexing melange of dissimilar tissues—*e. g.*, of carcinoma structure with that of sarcoma, of tubules or cysts lined with cubical epithelium, with areas of heterogeneous cell-infiltration, of glandular acini or follicles, with connective tissue structures, cartilage, fat, bone, carcoma, and gland tissue with muscle. Usually there is a tendency to cyst formation.

He considers that the theory of autositic cell reversion derives considerable support from the career of this very anomalous group of neoplasms.

NOTES AND ITEMS

Orificial Surgery.—The eighth annual course of lectures and clinics for instruction in orificial surgery by E. H. Pratt, M.D., LL.D., Chicago, will commence Monday morning, Sepember 3, 1894, at 9 o'clock. Seats will be reserved in order of application. For further particulars address Francis D. Holbrook, M.D., 56 Central Music Hall, Chicago.

Bellevue Hospital.—Plans are being made for the reconstruction of certain portions of Bellevue Hospital, New York, that part which is used as reception office, examination and admission rooms, besides store room of the hospital. The accommodations have been inadequate and reconstruction will be of great benefit to those interested.

A Medico-Historic Exhibition.—At the "Naturforscher" to be held at Vienna next September there will be an exhibition of articles illustrating the historical development of medicine. It will embrace diagnostic, therapeutic, surgical and obstetrical instruments and appliances of former ages; plans and pictures of hospitals; portraits of former physicians and surgeons; medals struck as memorials of plagues, and other objects useful as historical illustrations of past stages of the healing art.

An Antiseptic Varnish in the Treatment of Diphtheria.—In the *Journal des Practiciens* for June 13 there is an abstract from a Paris thesis by Dr. Aschkinazi on the particular use of an antiseptic varnish termed "steresol" in the treatment of diphtheria. The varnish consists of one hundred and thirty-five parts of shellac, five of benzoin, twenty-five of tincture of tolu, three of essence of cinnamon, fifty of carbolic acid and enough alcohol to make five hundred parts. The object is to prevent the access of air to the micro-organism, which is erobic, and to maintain a local antiseptic coating.

The Orloff-Davidoff Prize.—A prize of 10,000 rubles ($5,000) is offered by Count Orloff-Davidoff for the discovery of a certain cure or preventive of cattle plague. The efficacy of the remedy is to be proved by the same standard as those known to science as protective against small-pox, anthrax, etc. The award of the prize is in the hands of the Curator of the Imperial Institute of Experimental Medicine of St. Petersburg, acting on the advice of a committee of experts selected for the purpose. The competition is open to the whole world with the exception of active members of the above named institute. The description of the proposed remedy must be clear and complete; it must be sent in, under the ordinary conditions as to concealment of identity on the part of the author, on or before January 1, 1897. The award of the prize will be made on January 1, 1897. If no remedy satisfies the committee, a further competition will take place, and the award made on January 1, 1902. This may stimulate the search for the desired remedy, but it may also lead to the suppression of any such discovery, if made, until the award of the committee is announced.—*Medical Record*

An Epidemic of Hysterical Contractures in a Village School.—The *Revue Internationale* for June 10 contains an abstract of an article by M. Hirt, of Berlin, published in the *Journal de Medecine de Bruxelles*, in which he related the following instance: A little girl, seven years old, was seized one day, while in class, with an attack of trembling which began in the right hand and extended to all the muscles of the body. This lasted for half an hour and terminated abruptly with convulsive symptoms. The following day other little girls presented the same symptoms, and from that time they occurred every day, becoming more aggravated, and a month after their first appearance the number of children seized with these attacks was twenty, and at the end of the school year, thirty eight. None of the boys had been affected. At the beginning of another term several girls complained of violent headaches, and these were sent back to their homes. M. Hirt had examined several of these children and found that the attacks began with generalized trembling followed by muscular contraction; the respiration became accelerated, the mouth was frothy, and cramps, alternately tonic and clonic, set in; there were also hallucinations, and some of the children barked. Compression of the ovaries was resorted to, but it failed to control the attacks. It seemed to the writer a true epidemic of hystero-epilepsy which might be compared to the epidemic of contracture of the extremities described by M. Jules Simon.—N. Y. *Med. Journal.*

Health and Morals of Congress.—Section 40 of the Revised Statutes of the United States directs that the Sergeant-at-arms of the House of Representatives shall deduct the proper amounts from the salaries of members who are absent for other causes than sickness of themselves or members of their families. After remaining for years a dead letter it was revived this session as a means of securing a quorum, but its enforcement proved so farcical that Representative Powers, of Vermont, has introduced a bill for its repeal. In support of his bill Judge Powers urges that "it is apparent that the excuse of sickness is one easily made, and it is suspected that it is sometimes assigned as a reason for absence without any diagnosis of ailment by medical experts. In other words, the enforcement of this section practically makes every member a pathologist on the subject of disease, which is not a qualification for Congress mentioned in the Constitution, and so for this reason the law is plainly unconstitutional. It is believed that each House of Congress can, by an appropriate rule, better enforce the attendance of members than by a statute operative as a penal statute and evaded by every subterfuge. Obviously the manly way to get rid of objectionable legislation is to repeal it, and in this case such repeal will manifestly improve both the health and morals of the House."

Representative Powers is the wise and witty Judge who, as the readers of the *Journal of the American Medical Association* may recall, in refusing a writ of mandamus against the Vermont State Board of Medical Censors to compel it to recognize the Vermont Medical College—a "diploma mill," organized under a general incorporation act—said that: "To suppose that the

Legislature meant by this act that any three persons could organize a college and confer medical degrees would be to make the title M.D. of as little account as Richelieu threatened to make a dukedom in France. He would create so many dukes that, while it would be no disgrace not to be a duke, it would certainly be no honor to be a duke."

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)

[CONCLUDED]

Saint Cyr (*Traite de Obstetrique Veterinaire*, page 41), says that the females of domesticated animals show signs of excitement during the period of heat—not only by general symptoms, but by swelling of the vulva, and an odorous, glairy sanguinolent discharge; and that in the cow particularly, and frequently in the mare, this discharge is abundantly sanguineous. He says that this sanguineous excretion, which has been studied with care by Newmann, Fuschs, Spinola and others, is a normal phenomena, and analogous to the catamenial flux of women.

Denman (*Midwifery*, page 88), says: "It has also been observed that all animals, at the time of their being salacious, or in a time fit for the propagation of their species, have a discharge equivalent to menstruation, which is generally mucous; but in some instances in very hot seasons and climates, becomes in many of them sanguineous, as I have often observed."

The celebrated Dr. Mead wrote a treatise on the "Influence of the Sun and Moon on Human Bodies," wherein, according to the prevailing notion of the time, he labored to show that those great luminaries exerted direct influence upon animals, and speaking of this power over periodical hemorrhages he says:

"And this action of the moon extends even to those quadrupeds that are menstruated, for it has been observed that they generally have those evacuations about the time of new moon—in particular mares and monkeys —and that so constantly that, according to the testimony of Horus Apollo, the Egyptians painted the cynocephalus to represent the moon, upon account of a certain sympathy, whereby the female of this animal has evacuations of blood from the uterus at the new and full moon; and they kept monkeys in their temples in order to point out the times of the conjunction of the sun and moon. * * * Wherefore the moon's influence is apparent in all animals, provided irregularities and their way of living do not prevent it."

My own personal inquiries into the character of the phenomena observable in females of the lower animals at their time of sexual excitement show that a more or less marked sanguineous flux occurs in the following: monkeys, mares, cows, sows and bitches. In the higher monkeys, when they do not suffer through captivity, the flow is almost—sometimes quite—as copious as in women. In some varieties the genitalia becomes swollen and brilliantly colored, so that tomato like vermillion-tinted masses render their condition conspicuous. The simiæ also commonly observe monthly regularities in their periods. In mares the "pouting rent" with its incessant spasmodic opening and closing, and its rosy-colored, highly odorous, sanguineous mucous weeping, proclaims the period of heat. In the cow the period occurs every three weeks, and is of brief duration; but towards its conclusion it is marked by a distinct flow of blood. Mr. Simpson, of Wray Park, whose accurate observations upon his splendid herd of Jersey cattle during fifteen years may be implicitly relied upon, informs me that the duration of the rut in old cows is briefer than in heifers, but is short in both; and his herdsmen have often to be nimble in getting the services of the bull. When the blood appears the heat usually subsides and intercourse is refused. Cows have been known to have excessive loss, resembling the menorrhagia of women. Mr. West confirms these observations from a very wide experience as a veterinary surgeon.

It may here be appropriate to mention that evidence is not wanting to show that the menstrual act in milch cows is apt to derange the creatures' milk temporarily; in some instances rendering it unfit for consumption by suckling infants. It is maintained by certain observers that the milk of menstruating women also deteriorates during the catamenia, when the latter occur during lactation; and I have met with many corroborative examples, though in other cases no particular harm appears have ensued. The probability of derangement arising from this cause receives some confirmation from the changes which are known to take place in human milk at the catamenial periods.

Dr. Barnes states that microscopical examinations of milk yielded by menstruating women show a considerable production of colostrum corpuscles at these epochs. Such milk seems to resemble that first secreted after delivery (colostrum), and in cows this first milk or "beastings" is known to possess very peculiar properties. It is, for instance, in them so highly albuminous

as to coagulate firmly on the application of heat, the resulting *magma* resembling pretty closely custard pudding; indeed in country places I have known "beastings" used for the purpose of making such puddings; and as in women this first milk is believed to exert rather an aperient effect upon the offspring. Its color is much yellower and its aspect is very different from that of ordinary milk. My inquiries lead me to believe that, besides the alterations recognizable microscopically, there are other, perhaps more important changes in the composition of menstrual milk affecting materially, not only its corpuscles, fat and casein, but its chemical constituents, salt, sugar, etc. Probably it is to impairment of the quality of the milk by subtle changes of the kind that the deleterious results are attributable.

Acute emotions of a distressing character, particularly violent anger and jealousy, have been known to alter a mother's milk so completely as to excite symptoms of sudden poisoning, and even convulsions in the infant. The secretion must therefore obviously be highly susceptible of rapid modification in its structure and composition.

Probably in a herd of dairy cattle the admixture of the milk of one or two rutting cows with that of the rest of the herd is of but little consequence and fortunately, as already stated, the duration of the rut in ruminants is usually brief. Besides, if I am rightly informed, milch cows, like women, do not always manifest symptoms of estruation, during, at any rate the earlier months of lactation, though they commonly do, and the heat may supervene at any time. But when, as of late has become a growing custom amongst well to-do people, hand fed infants have milk supplied exclusively by one cow, periodical disturbance may be manifested in the infant, corresponding with observed periods of heat in the animal

In sows the vulvar swelling is considerable and a sanguineous exudation may appear towards the termination of the period of heat, particularly in well fed animals. In bitches the flux is often abundant and prolonged. Mr. Bartlett informs me that the surest method of procuring impregnation in the bitch is to permit access to the male only when the flow of blood is well established—a statement which is corroborated by information for which I am indebted to Mr. Bird, J. P., who has bred many blood hounds. This has some bearing upon most questions relating to impregnation, conception, and ovulation. In well-fed carnivora the heat appears to be sometimes prolonged when not appeased by sexual gratification.

Besides the fore-mentioned creature, personally observed, information respecting other female animals has been given me by reliable observers. Thus the periods of heat have been recognized in the hippopotamus in the zoological gardens. These occur monthly, and the creature's period of gestation is only seven months, which strikes me as remarkably short for so huge an animal; it has been accurately noted however on three occasions. The smaller tapir, which has recently bred in the gardens, is believed to gestate for double this period. Such apparent anomalies show the importance of inquiry into specific or generic peculiarities. In the equine species, which is thought by some to have ancestral affinities with the tapir, the mare goes with young for a long period, her time of gestation being eleven months, while that of the cow is only nine months as in women. There is an old saying known in country places, that "a hare and a mare go a twelve months" that is, the hare goes one month, while the mare goes eleven.

I am told that she-asses come to heat regularly like mares, but that the periods recur only about every five weeks. They also exhibit swelling and weeping of the vulva. Sheep present similar phenomena but they are not strongly marked, and recur only seasonably—*i. e.*, in warm months—for a few times and are of brief duration. Cats are known to have recurring periods of heat, but how often I am not reliably informed. Doe rabbits are well known to manifest periodic heat symptoms and their vulva, orifice, vagina, etc, show deep purple turgescence.

It is evident that animals susceptible of domestication become much more prolific under the agency of a constant supply of food, shelter and such like advantages, and that in lieu of merely seasonal manifestations of sexual aptitude displayed by them in a state of nature they acquire a much more sustained, and frequently renewed, capacity for reproduction, and with it comes the exhibition of aptitude in the characteristic manner peculiar to each creature. As Mr. Darwin says: "Domestication, as a general rule, increases the prolificness of animals and plants." Domestication for the lower females and civilization for the human female have respectively so operated upon their reproductive systems as to enhance their powers, and repeat in the intensification the frequent display of catamenial phenomena.

The foregoing evidence appears sufficient to establish the fact that the lower females present the phenomena analogous to those of menstruation in the human female, and even to prove their identity. The facts also seem to justify the chief inference I have ventured to draw from them, namely, that the function is subordinate to the law of evolution, and is related mainly to the degree of evolution to which the sexual system has attained, such evolutions being always correlated with other evidences of organic development. They enlighten us respecting the correlations of the reproductive functions in the mammalian world; they show us the singular analogies that exist between the seasonal rutting and delivery of the lower females, and the still observable tendency to commence menstruation and to bring forth children in the warmer months of the human female, that relic of a primordial seasonal aptitude for procreation which still remains and to some extent governs the breeding times of humanity. They show us that the rare menstruation at long intervals—six, four or three months—of girls at puberty, is analogous

with the primitive seasonal heat of the lower creatures and is a repetition of reversion to an ancestral condition often initiated again at the decline of sexual life. These and allied facts will find their applications, and be constantly appealed to, in illustration of the physiology and pathology of the function in womankind; and I trust it will become clear to you that the information acquired through the study of the comparative physiology of menstruation is neither superfluous nor useless, either in the scientific discussion or in the practical application of our knowledge of the subject.

EXCURSION TO WASHINGTON, D. C.—On account of the Knights of Pythias Conclave at Washington, D. C., the Baltimore & Ohio Southwestern R'y offers a rate of one fare for the round trip from all points on its lines. Tickets on sale August 22d to 26th, good returning until September 15th. Splendid opportunity to visit the National Capital at low rate. For particulars apply to any Agent Baltimore & Ohio Southwestern R'y, or address, T. C. WELLS, Dist. Passenger Agent, 105 N. Broadway, St. Louis, Mo.

THE CODLIVER GLYCERINE CO., of St. Louis, says: "When a physician once prescribes Codliver Glycerine the question is settled and debate ceases." They therefore ask you to prescribe it but once—only once.

DES PERES, MO., March 10, 1894.

COOPER PHARMACY CO.—

Gentlemen—Will you be kind enough to send me at once (3) three bottles of your Valerianate of Sparteine Compound (Van Ness formula). I have been making a specialty of Asthma, and desire to say that it acts like a charm. In one case, of twelve years' standing, I used it on, I think I have cured permanently; anyhow, what can you sell it to me for by the dozen or gallon? C. S. GOODBUB, M.D.

ALMO, KY., July 4, 1894.

DIOS CHEMICAL CO.—

Gentlemen—Neurosine gives entire satisfaction. I think it is much better than most remedies of its class.

J. M. J. MANNING, M.D.

ST. PAUL, MINN., May 31, 1894.

COLUMBIA CHEMICAL CO.—

Gentlemen—I experimented about a month with the Thyroidine which you sent me some months ago; it was in a case of depraved nutrition in which the usual constructives had failed to prove of benefit.

A careful record of the case has been kept, in which is noted its influence upon the pulse, the temperature and the respiration.

This chart, which I will send you, or rather, which I shall forward to Dr. Hammond, I think will prove of much interest. Suffice it to say, that the improvement in the nutritive condition of the patient was very marked and I discharged her cured. C. E. RIGGS, M.D.

IN TYPHOID FEVER.—Dr. Joseph D. Rush reports favorably in *Virginia Medical Monthly* two cases of typhoid fever, where results were obtained from the exhibition of Antikamnia and Salol.

1st. Female, aged 24, married. Fever at end of seventh day reached 105° F. Calomel, sodium and quinia having failed, then gave

℞ Antikamnia,
Salol, - - - - - - - - - aa ℥ss.

M. Make into twelve capsules.

Sig. One every three hours.

This treatment, maintained for twelve days, secured convalescence. Alcoholic baths to the spinal column once a day, the diet being boiled milk and tea.

2nd. Male, aged 13. Temperature 105°, same treatment, same result.

He concludes that salol as an internal antiseptic combined with the antipyretic qualities of Antikamnia promises all that can be desired in the treatment of low and continued fevers with bowel complications.

"Antikamnia and Salol Tablets" are put up in exactly the dosage as given above, each tablet containing two and a half grains of Antikamnia and two and a half grains of Salol, by the Antikamnia Chemical Co., St. Louis, Mo., which please specify.

MORLEY, MO., February 2, 1894.

DIOS CHEMICAL CO.—

Gentlemen—In reply to yours of the 21st inst., will say that I gave the sample of Sennine a test as an antiseptic in a case of suppurative ulcers, and also in a case of chronic diarrhea, and am much pleased with its action. With bad fetor of breath in long-standing cases of intestinal troubles, I think it has no equal. C. C. HARRIS, M.D.

LIQUOR SEDANS.—Chas. Kelley Gardner, M.D., writes the following to the *Medical Age:* This I find to be a utero-ovarian sedative and anodyne of exceptional value, as in my hands it has produced the most brilliant and flattering results, far exceeding my most sanguine expectations.

Mrs. W., aged 44, and approaching the menopause; very anemic, thin, and of a nervous temperament; much anorexia at times; habitually constipated; complains often of headache and palpitation, with frequent but scanty micturition: menstruation very irregular, returning every three to five weeks, and lasting from two to four days; flow small in amount and nearly colorless; attended with violent pains in the lumbar region, groans, with general tenderness over the hypogastric region; no organic lesion of the heart, simply functional as a result of other lesions.

Upon examination, I detected retroversion of the uterus of the second degree, and a profuse leucorrhea. Had previously almost exhausted the materia medica in seeking a remedy for her relief; had given Hayden's viburnum comp., aletris cordial, fluid extract viburnum pruniform, cannabis indicæ, etc. As a *dernier ressort*, I ordered Liquor Sedans, one drachm four times a day, to be continued during menstrual period; Fowler's solution with bromides, and an injection for the leucorrhea; also placed a Thomas' retroversion pessary. Saw her four days later; met me with a smile and remarked the "new medicine" was going to "cure" her. Her improvement has been steady and rapid; appetite good; menstrual epoch unattended with pain; discharge higher colored and more profuse, lasting from five to six days, and more regular than before for years. Leucorrheal discharge disappeared; does not suffer with palpitation or headaches. Such is my happy success with that grand therapeutic agent, Liquor Sedans.

SIGEL, ILL., July 1, 1894.

DIOS CHEMICAL CO.—

Gentlemen—I have given Dioviburnia a fair trial and am well pleased with its results, having effected cures of different uterine troubles that with other remedies I failed.

R. L. KURTZ, M.D.

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ORIGINAL ARTICLES

Human Rumination Regarded in the Light of Atavic Tendency.—Report of a New Case with Results of an Investigation of Its Digestive Chemism.

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Read before the Academy of Science of St Louis, April 16, 1894.

Before entering upon the discussion of the possible or probable causal factors leading to the establishment of the habit of rumination in man, I prefer, as a matter of convenience, to present first the case that has come under my observation, and all that pertains to it.

Mr. D——, a gentleman of Scotch-English parentage, aged thirty-seven, high grade teacher, married but without issue, came to me on December 18, 1893, seeking relief from an attack of indigestion. The train of symptoms complained of, was the usual: mental unrest and languor, headache, quite severe vomiting of a "bilious" nature, eructations of odorless gas, a sensation of fullness after eating, loss of appetite, but no pain. The patient stated that he had been subject to similar attacks for many years; they even compelled him to interrupt his collegiate course for one year. The attacks had usually yielded readily to dietetic measures, and some anti-fermentative medication. Four years ago, the diagnosis of gastrectasis was made. I found that this conclusion had been reached by the general appearance of the case, and not by a thorough physical examination. In the course of my inquiry, the patient mentioned quite incidentally that he had been regurgitating his food after nearly every meal for many years. Upon pressing the subject, which the patient seemed to resent as irrelevant to the main issue in question, *i. e.*, his present complaint, I learned that the so-called regurgitation served the specific purpose of remastication. This fact convinced me that I was face to face with a genuine case of merycism; on repeated cross questioning, I ascertained that it had never before been placed on record.

The family history fails to record the existence of another merycole, or of any pronounced neuropathic tendency, but a weak stomach appears to have been a family heritage, for both parents, one aunt and a brother had been or are possessors of such a stomach. The patient is a man of that wiry type, the delicacy of appearance of which, is belied by a remarkable amount of physical endurance and nerve power. His height is 5′ 5″; his weight is with slight temporary variations about 120 pounds, pointing to a constant state of nutrition. He never used tobacco in any form, and does not indulge in alcoholic beverages, except in an occasional glass of watered white wine. He cannot remember of having ever passed through any sickness of a serious nature, and at present does not reveal symptoms of any disorder of the nervous system, except an atony or muscular insufficiency of his stomach, and particularly that of its cardiac sphincter, a condition usually classified with the disturbances of function or neuroses.

The patient's recollections of the dawn of his ruminating life carries him back to the fields and woods of his native Scotland, where he, a lad of twelve, ate unmeasured quantities of bramble berries. To this indulgence, he ascribes the establishment of the ruminating habit, acknowledging at the same time, to have been always a fast eater, which by inference fastens upon him the vice of insufficient mastication. During twenty-five years, his food had come up to a greater or less extent after every meal, to be subjected to further mastication, and then to be swallowed again. This procedure is often repeatedly gone through with from a few to about one hundred minutes after the meal. The grosser portions of the food are selected with remarkable precision: meat and seed-fruits seem to be particularly apt to be returned, vegetables and bread less often, crackers when ingested in pieces of considerable size; the casein of the milk is regurgitated in lumps whenever milk is swallowed in large draughts. Peptonized milk, beef-peptones and fluids of any kind are never regurgitated. The taste of the regurgitated food assumes but rarely a disagreeable character; it is quite unaltered when regurgitation occurs soon after the meal, and becomes of an acid nature of varying intensity, whenever the pro-

cess takes place some time after, the patient not being able to define the exact time. On March 21, he visited me at 3:30 P.M., after having dined at 2:20 P M. The fish eaten at the latter was regurgited and remasticated during our conversation. Upon questioning I found that it had not lost any of its original flavor. The act of rumi nation occurs nearly always without the patient's con sciousness being aroused to a sense of an effort. Nausea never precedes it. I had occasion to take note of the ease with which the patient is able to relieve his stomach of its contents. The effort of effecting this, never assumes the vehemence of a vomiting act. Whenever the patient goes to sleep after having eaten a heavy meal, he usually awakens with a sensation of great discomfort, and the regurgitations, on these occasions, are apt to be of a very distasteful nature. For this reason he avoids sleep on a full stomach. Past experience has taught him that he is at his best when he spends about three-quarters of an hour after eating in restful conversation, during which time the rumination it at its height; after that, a long walk seems to add greatly to the feeling of general well-being.

As a peculiar feature I may mention the following observation made by the patient on repeated occasions: whenever the ruminating act failed him, for some occult cause, he invariably suffered with regurgitation of bile into the stomach. I had an opportunity of verifying his observation, on, at least, one occasion. At our first meeting, he stated that the regurgitation had been deficient for some days. I expressed the stomach, using a soft rubber tube, and found the expressa intermixed with bile, the presence of which was clearly demonstrated by Gmelin's test for bile pigments.

The physical examination made with reference to the condition, complained of at the time of the patient's first visit, was not expected to throw much light on the normal behavior of the stomach. I concluded to abide my time, and to relieve, if possible, the temporary disturbance. A course of morning auto-lavage was instituted, a procedure of no difficulty as the tube had to overcome but a slight pharyngeal reflex, and descended almost by its own weight. A trial meal was administered, and expressed one hour after ingestion. The stomach contents showed the presence of traces of free hydrochloric acid and of a large amount of lactic acid or lactates. This led me to prescribe large and frequent doses of the dilute hydrochloric acid. Peptonized milk and beef peptones were allowed in small quantities at short intervals, until the abatement of the acute symptoms warranted an increase of the nitrogenous diet. The carbohydrates were at first excluded and only very cautiously introduced into the daily regimen. Acting upon a hint from the patient as to his having always been benefited by a long tramp into the country, I advised him to purchase a bicycle by the use of which I intended to act more forcibly and directly upon the abdominal muscles, for a flabby abdomen is, undoubtedly, an important factor in bringing on permanent dilatation of an already atonic stomach. The existence of some muscular insufficiency was suspected by me from the very beginning; that my suspicion was not groundless, was fully borne out by my further investigation. On this line of treatment, the patient gradually improved, and at present his health is restored to its usual equilibrium, which of course does not mean that the gastric insufficiency has been removed. The treatment did not affect Mr. D——'s ruminating propensities in any way; it was not intended to do so, for I followed, with regard to this feature of the case, the doctrine of letting well enough alone. I, of course, insisted all along, on a thorough primary mastication. Whether this will have ultimately the beneficial effect of eradicating the ruminating habit, remains to be seen; thus far no change is noticeable.

Having done my duty by my patient, I now called on him to do his by me, to which call he most graciously responded. On March 24, I subjected him to another physical examination, with the following results: Inspection, palpation and percussion revealed nothing of any moment. On auscultation, with the stethoscope placed below the xyphoid cartilage, Metzer's "Durchspritzgeraeusch" (Ewald's 1st deglutition murmur), was audible once out of four times, the "Durchpressgeraeusch" (Ewald's 2nd deglutition murmur) was perceptible three times out of four, *i. e.*, when the first could not be heard.

Two hundred and fifty cubic centimeters of water were poured into the stomach by means of the tube; in the standing posture a line of dullness appeared 4 cm. over the umbilicus. The addition of 500 cc. brought the line of dullness to within 2.5 cm. of the umbilicus. The patient complained of a sensation of fullness, and the stomach was emptied. After this, distention with air was attempted. At every stroke of the double-bulb apparatus, the air rushed out along the sides of the tube, with an explosive sound. This fact and the great discomfort complained of by the patient caused me to desist from any further attempt at distention.

Thus far my examination proved to me three points:

1. The absence of any considerable degree of gastrectasis.

2. The high degree of paresis or insufficiency of the cardiac sphincter.

3. Some muscular atony of the whole organ.

To establish the degree of motility of the stomach, Ewald and Sievers' salol test was made use of:

March 25, the salicyluric acid reaction was obtained two hours after ingestion.

March 31, the reaction appeared two hours after ingestion and failed to show twenty-four and thirty two hours after.

April 8, traces of the acid were demonstrable in the urine passed two and sixteen hours after ingestion; no acid was found in the urine passed twenty-four and thirty hours after ingestion.

The last dose of the salol was taken during a meal consisting of boiled chicken, farina egg pudding and a glass of dilute white wine. The patient was at my

office three hours five minutes after this meal. As he spoke of experiencing a sensation of gastric fullness, I expressed the stomach and found the contents strongly impregnated with the characteristic salol odor. In giving the results of this test, due reservation is made for the possible fallacies pointed out by some observers, and admitted by Dr. Ewald himself.[1]

To test the absorptive power of my patient's stomach, I followed Penzoldt's suggestion, *i. e*, giving 0.1 gram of potassium iodide, and timing its appearance in the saliva.

March 25, it appeared one hour, and one hour and fifteen minutes after ingestion.

March 31, it had not appeared after one hour and thirty minutes.

April 8, it appeared after one hour and fifteen minutes.

I give these results with some misgivings as my patient's ruminating faculty renders them unreliable; the saliva may have been contaminated by regurgitated food particles carrying with them some of the iodide.

The method pursued in the investigation of the digestive chemism was the following:

Having ascertained that no acid of any kind had been taken for at least sixteen hours, Ewald's test breakfast consisting of thirty-five grams of dry white bread, and one third of a liter of warm water, was administered on an empty stomach, and the latter expressed one hour afterward. The expressa were filtered, the residue weighed, the filtrate measured and subjected to an analysis. For the sake of simplicity, I place the conditions or substances tested for, in juxtaposition to the reagents or tests employed:

Reaction = litmus paper.

Free acid = tropaeolin solution.

Lactates, lactic and fatty acids = Uffelmann's reagent.

Acetic acid = by its odor.

Acid salts = Leo's method.

Free hydrochloric acid = Guenzburg's reagent.

Total acidity = titration with an empirical potassium hydroxide solution (1 cc = 0.002532 g. hydrochloric acid), the potassium hydroxide having been previously purified by the Barium method. Phenol Phtallein was used as indicator.

Bile = Gmelin's test.

Starch and Erythrodextrin = Lugol's solution.

Maltose = Copper reduction test.

Thus far, the examination was conducted pretty much on lines laid out in Dr. Ewald's treatise on Diseases of the Digestive Tract. With regard to the manner of ascertaining the presence of the different proteid substances in the stomach contents, I deviated from the course advocated and commended by the professor of Berlin. On pages 42 and 43 of the authorized American edition (189 ?),and on pages 59, 60 and 61 of the third German edition (1893), appears a statement reiterated three times in rapid succession, to the effect that syntonin when present in the stomach contents in solution is coagulable by heat. This is a gross error as syntonin and all of the other so-called derived albumins and albuminates possess the indisputable properties of being insoluble in water, salt solutions and alcohol but soluble in dilute acids or alkalies, of not being coagulated while in solution at any temperature whatever, be it 70° or 212°, and finally of being precipitable by careful neutralization. The neutralization-precipitate (Mulder's protein ?) is indeed coagulable at 70°, when suspended in water or any other neutral medium.

The method which I have adopted for separating the different members belonging to the family of proteids, is the following:

1. Boil the filtered stomach contents.

Turbidity shows the presence of native proteids (albumins, globulins).

Filter.

2. Test the reaction of the filtrate with litmus paper; if acid, neutralize exactly, using as indicator, litmus or turmeric paper. (To avoid an excess of the neutralizing reagent, it is best to use normal or empirical sodium carbonate solution, the total acidity for a certain quantity of stomach contents, having been estimated previously by titration).

A precipitate indicates acid albumin.

Boil and filter.

3. Test filtrate for the cuproproteic reaction.

If a rose-red coloration appears, add a few drops of acetic acid, and to the almost boiling filtrate from 2, add solid ammonium sulphate to saturation (97.5 parts of the salt to 100 parts of stomach contents).

A precipitate proves presence of albumoses.

Filter after twenty-four hours.

4. Test filtrate for cupro-proteic reaction:

If a rose-red coloration appears, crystallize out some of the ammonium sulphate, and filter. If with nitric acid a yellow coloration, and with ferrocyanide of potassium and acetic acid no precipitate is obtained, the presence of peptones is proved.

I call attention to the following points in this scheme:

The stomach contents are boiled at once after expression and filtration, so as to destroy the action of the gastric enzyme.

In testing for derived albumins, the use of an indica-

[1] Whoever has done any work in the physiologico-chemical line, will appreciate the importance of acute discernment of different tints and hues, for much of the accuracy in this work depends upon the possession of that faculty. For the benefit of the inexperienced in that special work, I mention the occurrence of an optical phenomenon in connection with the salol test. The color of a drop of Ferric chloride solution, appears on white filter paper, a greenish-yellow which has for its complement "violet." The latter appears very quickly on retinal exhaustion for the greenish-yellow. As the crucial test for the salicyluric acid, is the appearance of a (usually faint) violet color, the possibility of an error is obvious. My advice is to either trust to the first quick glance, or to repeat the test upon complete disappearance of the negative after-image.

tor in solution is not advisable on account of the color reactions to be made subsequently.

The term acid albumin is substituted for syntonin as used by Ewald. The latter term is reserved by the majority of physiologists and chemists for the substance formed by the action of dilute acids on muscle myosin (Hermann,[2] Gad and Heymans,[3] Steiner,[4] Landois and Stirling,[5] Foster,[6] Roehmann,[7] Beilstein.[8]). We may well retain "acid albumin" for a generic term.

The filtrate from 2 is boiled so as to throw out any egg albumin that might not have been coagulated by the first heating on account of the presence of the acid.

For the cupro-proteic reaction, Wenz[9] recommends the use of a 15 per cent sodium hydroxide solution, and a 0.2-0.5 per cent cupric sulphate solution added drop by drop. I prefer not to name the rose red cupro proteic reaction a "Biuret" reaction for the reason that a lamentable confusion exists with regard to this term: some physiologists apply it to the violet and rose-red cupro-proteic reactions, others limiting it to the latter. Biuret is a nitrogenous decomposition product obtained on heating urea to 120°. It responds to many reactions characteristic to proteid bodies, hence Pickering[10] recommends the use of the term "Biuret" in a generic sense. He offers at the same time new terms for the two cupro proteic reactions: for the violet—"iono-proteic" (from the Greek—a violet), and "rhodo proteic" for the rose-red reaction (from the Greek—a rose). The popularization of this proposed change should be hailed with gratification by all who have truly scientific terminology at heart. In quoting Pickering I take pleasure in mentioning his recommendation of the sulphate of cobalt as a delicate reagent for detection of proteid bodies. The colors struck by it with the different proteid bodies are so characteristic as to preclude any possible error of discernment, while that much cannot be said of the violet and rose red of the cupro-proteic reaction.

For the separation of the albumoses of which Ewald in his scheme mentions but one, the propeptone of Schmidt-Muehlheim, or Kuehne's protoalbumose, I modified Ewald's procedure by substituting saturation with ammonium sulphate for the saturation with sodic chloride on addition of acetic acid. Wenz[11] has satisfactorily demonstrated that ammonium sulphate, under certain conditions, will throw down all proteids except the true peptones. Ewald follows the method recommended by Boas, the results of which Chittenden[12] has proved to be without any value for the reason that sodic chloride will precipitate protoalbumose, but will not affect in the least the deuteroalbumose. The latter would pass into the filtrate from 3, and thus vitiate the results of the subsequent tests for peptones.[13]

Reverting to the case under consideration, I will state that Ewald's test breakfast was administered on six different occasions. The expressa obtained on March 27 were rejected on account of a distinct odor of sulphuretted hydrogen, the presence of which would have vitiated Guenzburg's reaction and the results of the estimation of total acidity. The patient admitted having eaten some eggs on the previous day which may have been not quite fresh. It has been urged by Vierordt[14] and others that Ewald's trial meal left room for considerable error by putting the working capacity of the stomach to but a slight test. To meet any objections on that score, I added to the breakfast in Exp. VII and VIII the white of two hard boiled eggs.

The results of the analysis were as follows:

	Mar. 25	Mar. 27	Mar 29	Mar. 31	April 1	April 4	April 17	April 22	
Exp.....	I.	II	III.	IV.	V.	VI.	VII.	VIII.	
Residue.....	5 99		4.51	3.85	6.73	5.20	3.82	6.90	grms
Filtrate.....	46		36	47	36	42	46.5	52	cc.
Reaction	acid		acid	acid.	acid	acid	acid	acid	
Free acid.....	pres.		pres.	pres.	pres	pres.	pres.	pres.	
Lactic and fatty acids.....	abs		abs	abs.	abs.	abs.	abs	abs.	
Acetic acid.....	abs		abs.	abs.	abs.	abs.	abs.	abs.	
Acid salts.....	trace		trace	abs.	abs.	abs.	abs	abs.	
Free hydrochloric acid..	2.203		1.499	1.694	1.418	1.747	1.514	1.982	p. m.
Starch	pres.		abs.	abs	abs	abs.	abs.	abs.	
Erythrodextrin.	pres.		pres.	pres.	pres.	pres.	abs.	abs.	
Maltose.....	pres.		pres.	pres.	pres.	pres.	abs.	pres.	
Native proteids.	abs		abs.	abs.	pres.	pres.	pres	pres.	
Acid albumin...	abs.		pres	pres.	pres	pres.	pres.	pres.	
Albumoses.....	abs.		abs	abs.	?	pres	pres.	pres.	
Peptones.....	pres		pres.	abs.	?	?	pres.	abs.	
Bile.....	abs.		abs.	pres.	abs.	abs.	abs.	abs.	

[2]Hermann, Lehrbuch der Physiologie, 1892.

[3]Gad and Heymans, Kurzes Lehrbuch der Physiologie des Menchen, 1892.

[4]Steiner, Grundriss der Physiologie des Menchen, 1890.

[5]Landois and Stirling, Textbook of Human Physiology, 1886.

[6]Foster, Textbook of Physiology, 1891.

[7]Roehmann, Anleitung zum Chemischen Arbeiten, 1890.

[8]Beilstein, Handbuch der Organischen Chemie, 1890.

[9]Wenz, Zeitschrift f. Biologie, Band XXII.

[10]Pickering, "Proteid Reactions," Journal of Physiology, Vol. XIV, 1893.

[11]Loc. cit.

[12]Chittenden and Hartwell, "Proteoses and Peptones," Journal of Physiology, Vol. XII, 1891.

[13]Kuehne has recently pointed out that complete precipitation of the deuteralbumoses can only be attained upon long continued boiling of the fluid saturated with ammonium sulphate, and then only when the reaction of the fluid is changed alternately to neutral, alkaline and acid, the heat-

The residue consisted of bread pulp; no coagulated egg albumin was discoverable in the expressa obtained for Exp. VII and VIII.

The filtrate was watery, slightly opalescent, odorless or of a faint bread odor, in color yellowish, except faintly greenish-yellow in Exp. IV.

The salient points in this list of experimental data appear to be the following:

1. The rather close approximation of the amounts of residue and filtrate obtained at each experiment points to the thoroughness of the expression practiced.

2. The absence of any fermentative process is evi dent.

3. The amounts of free hydrochloric acid estimated, lie within the limits of the physiological norm, the minimum being 1.418 and the maximum 2.203 p. m. The nitrogenous addition in Exp. VII and VIII, did not affect the amount of the free acid.

4. The amylolytic action of the salivary enzyme is demonstrated by the presence of erythrodextrin and of maltose, the latter in considerable quantities in Exp. I–VI as shown by the exceedingly vigorous reduction of the cupric oxide. In VII, no reduction took place, and in VIII, but a slight one.

5. In the light of our present knowledge of gastric digestion, the analysis of the changes produced by the action of the pepsin-hydrochloric acid, is of but small value as clinical evidence. At the very threshold, we are met with a veritable maze of questions: Does gastric proteolysis terminate normally in the production of true peptones? The albumoses being more closely related in molecular composition to the intravascular proteids than the peptones, are they absorbed to any extent by the mucous surface of the stomach? Does the absorptive function of the stomach play an important or an insignificant role during the digestive processes? These and many more perplexing questions are awaiting a satisfactory, experimental solution. At present the clinician cannot be too cautious in drawing conclusions from the results obtained by an analysis of stomach contents. The trend of experimental evidence seems to point to but a slight absorptive power exercised by the stomach. If I accept this view, I am able to give but one interpretation to the data presented in the above table: the disappearance of a large amount of the ingesta (on the average about 30 grams out of 35) together with the presence of the proteolytic products in small quantities, points to a rather active removal of the stomach contents into the small intestine. This would go to show that the muscular insufficiency demonstrated by the physical examination is not of a pronounced character.

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ing of the fluid being continued for some time between these changes. He also recommends treatment with saturated sodium chloride solution previous to entering on the ammonium sulphate process. (Zeitschrift f. Biologie, Band XXIX).

The intensity with which coagulated egg albumin is liquefied by my patient's gastric secretion, was tested according to the method described in detail by Ewald. The addition of hydrochloric acid, two drops to 5 cc. of stomach contents, exercised a favorable influence upon the process of liquefaction.

The chemical analysis proves clearly that the digestive chemism, in any and all of its phases, is not the causal factor of the ruminating habit in the case under consideration.

Shall I shelve the difficulty by labelling this most remarkable phenomenon with the enigmatical superscription "neurosis?" To my understanding this euphonious term appears very nearly akin to the mathematician's zero: it *is* not "nothing," but it is the symbol for nothing I admit that we cannot entirely dispense with the term, as the dislike for nameless things is an inherent quality of our nature. What I object to, is the assumption of an oracular mien while giving utterance to it, just as if something intelligible and tangible were implied by its use. The neuroses are the offspring of our limitations. As a temporary makeshift, the term may serve its purpose, but let us hope that with further development of our means of investigation, the neuroses will gradually decrease in number, and at last disappear entirely from the field of our intellectual vision. To me merycism is not a neurosis, but what is it?

The great majority of merycoles were reported as enjoying perfect health; except for this habit, they did not disclose any deviation from the physiological standard. In my case there is seemingly a primary muscular insufficiency of the stomach, which appears to be a product of prenatal influences, a baleful legacy of a line of ancestors afflicted with a weak digestive viscus. To prove or disprove by actual data the existence of these influences is alike impossible, as we are rarely allowed to lift the veil off the past, beyond the second generation of progenitors. Few women or men know anything about the physical condition and habits of their great grandparents, though they may be found brimful of information as to the social, intellectual and, perhaps, moral status of their ancestry, centuries back. Does the paresis of the cardiac sphincter or the atony of the entire organ stand in any causal relation to my patient's habit? The former, as we all know, gives rise frequently to repeated and very persistent regurgitations of food. But rumination is something more than regurgitation; whenever the latter takes place, any of the stomach contents present at the time are sent up indiscriminately: at one time it may be solid food, at another chyme, or gas or fluid. In the case before us, the regurgitating act occurs with plainly selective precision; only, portions of the food that are in need of further mastication are returned with almost marvelous regularity. This feature stamps the case as one of rumination. The general atony of the organ cannot be considered seriously as a causal factor, for rumination is an act calling for actual, though perhaps slight exertion on the part of the muscular fibers of the stomach, the extrinsic abdom-

inal muscles being never called upon to aid in the consummation of the act.

My attempts at solving the problem having failed thus far, there is but one more thing to be done, and that is to find how much or how little the process of atavic tendency or reversion to ancestral types may have had to do with the establishment of this unusual condition. Eugene Martel,[15] in a contribution to the *Revue Internationale des Sciences Medicales*, (1886), quoting Blanchard, says, "that the habit of rumination was acquired by certain animals at the time that the carnivora appeared upon the earth. Fearful of attack, the ruminants grazed rapidly, ready for flight at the first intimation of danger. Then, having reached a place of safety, their food was regurgitated and masticated thoroughly. A similar condition is obtaining in man, he asserts, in this age of hurry; and unless we learn to be more deliberate in our eating, and to masticate our food in the first instance more carefully, the necessities of digestion will compel a regurgitation and rechewing of the food, which has been so imperfectly prepared for the action upon it of the gastric and intestinal secretions, and in time this process which is now exceptional in man, will become habitual."

This is not fanciful in the light of the science of evolution. While we are busily working in our laboratories over flasks and test tubes, pressing into service all the innumerable devices of human ingenuity, with a view of revealing some truth, we should never grow oblivious to the work that is being done in the great universal laboratory where in accordance with the eternal laws of nature changes are wrought unceasingly, unremittingly. These changes are effected by a slow gradual process, the actual workings of which remain ever imperceptible to us. Our intellect is capable of grasping their enormity only in the retrospect. But, if on the highroad of our natural lives, we meet with a phenomenon that appears to be replete with incongruity with its surroundings, and to defy our attempts at explanation, made in accordance with our limited experiences, do not let us dismiss its consideration lightly! It may easily be one of those sudden flashes by which Nature reveals her cosmic work from time to time. It will not do to refuse such thoughts entrance into the routine of our daily labors. If we disdain to apply the grand lessons taught by the science of biological evolution, we shall continue to dwell in utter darkness with regard to many vital phenomena. The laws of evolution, though all of their mysteries have not been and may never be unraveled, have been long ago cleared of the odium of idle speculation; they are as much of an incontrovertible fact as the law of gravitation.

Here we are face to face with a man who clearly abused his stomach, which, at his very birth, was branded with ancestral vice. Food which is the natural stimulant to the sensitive mucous membrane of the organ, was bolted, practically unchewed, every day of his life. From being a stimulant when offered in proper form, it grew to be an irritant, the difference lying in degree only, not in kind. The presence of irritating agents of any description is angrily resented by all tissues of high vitality: the mechanically indigestible matter was promptly rejected. This marks the phase of regurgitation. The possessor of the stomach finding the regurgitated bolus unaltered in flavor, *i. e.*, not objectionable to his palate, subjected it to more thorough mastication. This interchanging play was repeated until the food had attained the pulpy consistency best suited for the work of digestion. This marks the phase of rumination. The bolted gross food particles gradually ceased to play the role of irritating agencies; habitual recurrence of the events, made them revert to their original character, *i. e.*, they again became stimulants with the only difference that instead of inciting the churning movements of the stomach, they called forth propulsive movements that carried the offending agents along the path of least resistance, namely through the cardiac opening with its paretic sphincter. It is reasonable to assume that the nerve elements, central as well as local, acquired, pari passu, the faculty of responding to these new agencies of stimulation, and thus a complete reflex mechanism had been established. The higher brain centers were at first actively engaged in directing the process of remastication. At last they grew habituated to the changed order of things, and the entire act lost all the features essential to a conscious effort.

Thus stands before us in bold relief a beautiful illustration of the workings of atavic tendency. Our merycole bears out the biological truism that similar conditions are ever productive of similar effects, and that every living organism possesses the inherent power of adaptation. Two points may be raised against the view taken by me: firstly, it may be argued that the insignificant number of cases observed and recorded (about 116 in all, I believe) does not warrant such conclusions as I choose to draw from them; secondly, that there never were any profound anatomical changes demonstrated, which would lend strength to the assumption that merycoles were products of the latent tendency to revert to ancestral types. As to the first objection, let me ask how are we to know that the small number of cases reported represents even approximately the actual number that have existed and exist at the present day? Might we not justly surmise, from the very nature of the phenomenon, that an untold number of merycoles have lived and still live their long and natural lives amidst the mass of teeming humanity without ever having awakened to the consciousness of deviating in any manner from the physiological norm?[16] Raphael Blan-

[14] Vierordt, Diagnostik der Inneren Krankheiten, 1889

[15] Stedman, "Article on Rumination," Reference Hankbook of the Medical Sciences, Vol. VIII.

[16] The strong plausibility of this assumption has been forcibly impressed upon my mind since the reading of this re-

chard,[17] who is a congenital merycole, is a good case in illustration. The peculiarity of his condition never dawned upon him until a text book of human physiology had come into his hands; but for that incident, his case might never have been placed on record. The other objection I will meet by adducing the biological fact that physiological or functional changes always precede those of an anatomical or structural nature. Thus were the semi-carnivorous incisor and canine teeth of the Artiodaktyla and Perissodaktyla subjected to gradual structural changes, after the animals had begun to feed on food of a different nature. The close relationship between structural arrangement and functional requirement is beautifully illustrated by the stomach formation of the new born of the Selenodonta or Ruminantia, now extant.[18] Instead of the four compartments that we find in the adult animal there is but one fully developed, and that is the abomasus with its enzyme secreting mucous surface; the rumen, reticulum and omasus attain their full development during the first period of the animal's extra-uterine life. Our domestic calf does not ruminate while suckling. The mechanism of rumination is set to going at once when the nature of the food is changed. If merycoles have not so far borne out anatomically the theory of atavism, that does not preclude the possibility of gradual structural adaptation to the altered functional requirements. It must never be lost sight of that all evolutionary transformations, be they progressive or revertive in nature, are extremely gradual, and that we should not measure evolutionary processes with the infinitesimal measure of the few thousand years of historical record. We should remember that eons of time lay behind us, and that eons are to come!

In conclusion I will say that—atavism or no atavism—human rumination, if genuine, is not a pathological entity, but a physiological anomaly. It appears anomalous by comparison with the habits of the great bulk of non-ruminating members of the human family. With most merycoles it assumes the form of a perfectly natural process, essential to their individual well being, any interference with which is frequently followed by disturbances of a truly pathological nature. I frankly confess to sharing fully Eugene Martel's view, which appears rational in the light of many other manifestations of Nature's willing responsiveness to use, abuse and disuse.

I have advisedly refrained from all bibliographical and historical annotations on the subject of human rumination. I refer those interested in the phenomenon to Ewald's *Klinik der Verdauungs krankheiten*, Band II.: Einhorn's article on "Rumination in Man," *Medical Record*, 1890; Stedman's "Rumination in Man," Reference Handbook of the Medical Sciences, Vol. VIII.

The chemical work, in connection with this report, was done at the physiological laboratory of the St. Louis Medical College.

I take pleasure in thanking Dr. John Green, of the faculty, for the encouragement he has given me by word and deed, encouragement he is always ready to proffer whenever and wherever earnest work is being done.

port. A gentleman of high scientific repute, upon hearing of my case, volunteered the information that he had been a merycole for a long time. His case has never been recorded.

[17]Stedman, "Article on Rumination," Reference Handbook of the Medical Sciences, Vol. VIII.

[18]Wiedersheim, Lehrbuch der Vergleichenden Anatomie der Wirbelthiere, 1886.

Intestinal Obstruction.

BY A. H. CORDIER, M.D, KANSAS CITY, MO.

Read before the Kansas State Medical Society, at Atchison May, 1894.

A few years ago, at Salina, I had the honor of demonstrating before this honorable body the method of detecting perforations of the intestinal canal by the aid of hydrogen gas. This great discovery of Senn's initiated a new era in intestinal surgery, and while we do not waste time now in resorting to this diagnostic helper, but operate on suspicion, to the work of Senn in this country we owe the impetus to the great advance made in this class of life saving surgery.

The subject of intestinal pathology is of great import to the gynecologic surgeon. There are very few operative cases that do not have more or less involvement of the intestines, by direct adhesion to the growth removed, by wall to wall agglutination of intestinal coils, constrictions and partial stricture by acute bending, constriction by bands, or pressure from the growth. Any surgery of the abdomen or pelvis must of necessity also include these possible or probable bowel complications, prior to, during and following all intraperitioneal operations.

It would require a volume to write of and describe minutely the various types of intestinal obstruction and their causes, yet the treatment of this protean pathology may be summed up in the single word—surgery.

A bowel may become strangulated by a peritonitic band many years after the attack that produced the band, and this forms one of the post-operative sequelæ of intra-abdominal operations.

History of Case.

The previous history of the case, where it is enshrouded in mystery, may make the way clear to a positive diagnosis, as a history of old inflammatory attacks, etc.

Every case of intestinal obstruction is an individual one, and the diagnostic acumen of the surgeon will often be taxed to tell whether a given case is of a special variety, though it is often possible to predict with certainty the character of the obstruction before the operation. The history in many cases will aid the surgeon,

and in others mislead him. The character of the pain, its duration and location will often come to the surgeon's assistance, but will nearly as often prove misleading. In most cases the severest part of the pain is referred to the region of the umbilicus. It is a little above this point that the solar plexus is situated, and in many abdominal pains it is referred to this point by the patient. The pain may subside before death as a result of the profound collapse.

Before inflammatory changes begin pressure may relieve the pain. Diffused tenderness and pain indicate peritonitis. A sudden paroxysm of pain in a patient suffering with an obstructed bowel often means a perforation of the gut and an extravasation of feces and gas into the peritoneal cavity. Especially is this an indication of a perforation if it is followed by a profound collapse and rapid dissemination of the tenderness. The physiognomy of a patient in this collapse is one never to be forgotten when once witnessed, in a fatal case or even in a case afterwards relieved by surgery. A fatal collapse may come on early, and that, too, without the advent of a perforation. If obstruction is due to bands meturism is rare. Extreme vomiting may greatly relieve this. A paretic bowel does not expel its gas, neither does it produce cramp pains.

It has long been the opinion of some our best writers and teachers that the shock or collapse in the cases is due to the sudden damage inflicted to the peritoneum and intestinal walls by the constricting agent. I do not believe this to be the sole cause of the collapse, for we are often compelled to do a primary operation owing to the condition of the patient, without finding or liberating the strangulated gut or site of the occlusion. This is especially true of the chronically partially occluded bowel with an acute exacerbation. These cases have the same amount of shock as the acute, as they are made acute by the immediate condition leading to a complete obstruction.

After making an external opening as an enterostomy, many of these cases improve, the shock disappearing, and in a few days a curative operation may be resorted to. The shock is not due to the traumatism in the acutely obstructed cases. In every case in which an end to end or lateral anastomosis is resorted to the traumatism is far greater than that produced by the cause demanding the operation. If any of the mechanical devices are used, Murphy's button, Senn's plates, etc., all compressing agents, the amount of constriction or compression of nerves is greater than that produced by an obstructing band. I believe the shock is mostly due to the checking of the fecal circulation, and to the rapid distention of a large amount of the gut, and the absorption of ptomaines and bacteria.

The rapid development of septic symptoms can be accounted for in no other way than that the over-distended and paralyzed bowel permits, or rather encourages the absorption of the ever present pathogenic bacteria (bacilli colli communis) and their ptomaines, and to this source may be ascribed the profound symptoms of so dangerous a character.

Owing to the disposition of a given part of the small intestines to change its location we are unable to fix a definite topography of this portion of the alimentary tract. It is true that we are safe in diagnosing, in many instances, an involvement of a portion of the ileum where the history of the case points to old inflammatory remains (adhesions and contractures) in the region of the appendix or in the pelvis, because it is this portion of the bowel that is most frequently found in these localities, yet when we remember the fact that a portion of the jujunum often has the longest anessentery it makes us chary in saying that the portion of the bowel diseased is in the lower part of the ileum simply because we find the unhealthy coil in this locality. We may have a portion of the jujunum and a coil of the ileum in contact at the bottom of the pelvis, and yet the points be fully twelve feet apart if the course of the bowel be followed from one point to the other. In determining which direction (up or down) is to be pursued in seeking for the obstruction, it will assist the operator if he will remember that the upper layer of the mesentery is to the right. If he will follow the mesentery back to the spine he can at once decide as to the direction he is traveling, the mesentery taking its origin from the left side of the second lumbar vertebræ and running downward and to the right, being lost in its blendings in the right iliac fossa. Like the bladder, in early childhood the intestines are abdominal entirely, and not pelvic organs. Coils of the intestines are rarely found in the pelvis prior to the fourth year.

The vomiting usually becomes feculent from the third to the fourth day, the patient usually dying on the third or fourth day after this symptom begins. The nausea from an obstruction is not relieved by emptying the stomach, as is usually the case with the nausea accompanying other diseases.

Constipation is usual and continuous, and seems to be due as much or more to the paretic state of the bowel below the obstruction as to the inability of the contents to pass this point. The truth of this statement is verified by the presence of much fecal matter, in many cases, below the site of the obstruction.

The temperature is usually subnormal, even with the presence of peritonitis. Inflammation has no effect in raising the temperature of a collapsed patient. Of course, early in the process the temperature may be elevated several degrees.

If one is familiar with the many forms of intestinal obstruction it is not difficult to suggest, after recognizing the lesion, the proper surgical step for its relief. If a tumor presses on the bowel remove thetumor. If impacted feces, if cathartics and emetics fail, surgical removal becomes imperative if alarming symptoms develope.

Operative Indications.

It is just as illogical to continue giving cathartics and countenancing delay in acute and complete internal ob-

struction as it is unsurgical to persist in the application of cold and taxis in a strangulated hernia.

If we look back over our years of practice it is almost appalling to think of the many valuable lives lost by procrastination and tinkering. We all remember cases where a positive diagnosis of acute obstruction has been made, where the poor sufferer has been permitted to die after many days of suffering from the pain and sepsis, starvation and fecal vomiting. Can anything be more absurd or unsurgical then not to make a rational effort to relieve these cases by timely surgery? The time to operate on complete intestinal obstruction is as soon as the diagnosis is made.

In the management of these cases the indications for speedy relief must be met promptly. One case may require lateral anastomosis by some one of the many devices. Another, an end to end union after an extensive resection; while a third may demand an artificial anus, etc. To enter into a discussion of the merits and demerits of the many surgical methods for the relief of intestinal obstruction would require more time than I would be expected to occupy in presenting this article. Suffice it to say that the surgery must be early, thorough and quick. No chronic surgery should be practiced when dealing with patients with an intestinal obstruction. These cases stand prolonged anesthesia and slow surgery badly. Yet, the work must be perfect. A misapplied stitch may add another death to the mortuary column of the operator.

I realize the lack of completeness in this short paper, and trust to the members to make up for this defect in the discussion.

Hysterical Gangrene.—Ehrl (*Wien. klin. Woch.*; *Brit. Med. Jour.*) reports the following case in a girl, aged 18. Since her sixth year there had occurred regularly in the late autumn a reddening of small portions of the skin, followed by the formation of bullæ, which burst and healed. Three years ago the affection attacked the cheek, and was accompanied by anesthesia of half the face. Two months before admission the skin affection recurred, but under a different form; small portions of the skin on the right cheek became blackish in color and sloughed. Similar lesions occurred on the left arm. On admission, besides the scars, there were blackish sloughs on the back of the left hand. Three months later the patient again came under observation with localized gangrene of the skin, and on several subsequent occasions she had relapses. Later there was limitation of the visual fields and also hysterical aphonia. No organic cause could be found for the disease. The diagnosis of its hysterical nature was based on the anesthesia, visual disturbance, aphonia, ovarian hyperesthesia, etc., as well as the duration, recurrence, and changing character of the disease. There was no evidence that the lesions resulted from self-inflicted wounds. Subsequently a sister of this patient came under treatment with right hemianesthesia. Similar patches of redness, followed by localized gangrene, also appeared on the left breast, and later on the cheeks, in this case.

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Diabetes and Surgical Operations.

It is the experience of every surgeon that while operations upon some diabetic patients may be apparently as harmless as operations upon healthy individuals, they are in some cases accompanied by disastrous results. The tissues of diabetics are a particularly favorable soil for the development of bacteria, inflammation and gangrene being often the inevitable result of surgical procedures. If asepsis is a necessity in any operation, no matter how insignificant, it is pre eminently so in diabetic patients, and gangrene may often be prevented by operating under the strictest aseptic precautions. Antiseptics, on the contrary, are as much as possible to be avoided on account of their irritating properties. It is of much importance for the surgeon to know in what cases of diabetes it is justifiable to operate and when it is not advisable to undertake an operation, and with regard to this question the observations made by Dr. Reynier, of Berlin, are of much interest. According to the experience of this author operations are particularly fatal in cases of diabetes in which the reflexes are absent. Of forty diabetic patients operated upon, fifteen died and in thirteen of these the reflexes were absent and died of gangrene, lymphangitis and phlegmons of a

gangrenous nature. Of the remaining two one died of a phlegmonous inflammation which was developed from a panaritium, the other in consequence of a carbuncle which had been treated with sublimate and boric acid. The carbuncle healed, but suddenly sugar disappeared from the patient's urine, albuminuria set in and death occurred from uremia. Reynier differentiates between hereditary diabetes which is characterized by an excessively developed panniculus adiposus, but where the function of the muscles is preserved, and atheromatous diabetes in which the muscles are infiltrated with fat and degenerated. The latter occurs at about an age of fifty, while the former makes its appearance between the twenty-fifth and thirtieth year. There is less danger in operating upon the atheromatous form of diabetes than upon the diabetes due to an affection of the nervous system and pancreas. Gangrenous manifestations may appear after operation at any stage of the disease, but the resistance offered by the tissues to an operation or any kind of irritation becomes less and less as the reflexes disappear.

Experimental Typhoid Fever.

The morphological identity of the typhoid fever bacillus of Eberth which at present is looked upon by most authors as the cause of typhoid fever has suggested the idea to many minds that these micro-organisms are really identical and that under certain conditions the bacillus coli changes into Eberth's bacillus, which can only be differentiated from the former by its biological peculiarities. Some day it may be proven that the bacillus coli may change into Eberth's bacillus, but with our present light upon the subject and from the medical standpoint, we have to look upon Eberth's bacillus as a distinct organism. Of much interest, in this connection, are the researches of Dr. Sanarilli published in the *Annales de l'Institute Pasteur* (*Amer. Med. Surg. Bul.*), in which the author comes to the following conclusions:

1. Eberth's bacilli, when within the organism, produce a topical substance of great activity, acting on the nervous centers, giving rise to rapid intoxication, causing death by collapse.

2. Outside of its general toxic phenomena, the typhoid toxine has an energetic action on all mucous surfaces in general, and especially the enteric, producing violent venous congestions, extensive embryonal infiltrations, hypertrophy of Peyer's patches, acute edema of the epithelial elements, complete detachment of the interstitial epithelium, besides inflammatory processes, hemorrhages, and ulcerations of the digestive apparatus, more especially of the small intestine.

3. All these anatomical changes which can be developed by the typhoid toxine, even without the presence of bacilli, are accompanied by objective phenomena, closely resembling the clinical symptoms of human typhoid.

4. In experimental typhoid, as in the human fever, the bacilli are not commonly found in the intestinal contents, showing that the lesions are due to the toxic element, showing that the disease cannot be considered as an infectious one with an intestinal localization.

5. This lack of the Eberth's bacillus in the intestine of men and animals may be explained in two ways: (a) because typhoid fever is but an infection of the lymphatic system, and there alone the bacillus is localized, multiplies, and elaborates its poison, or (b) because, from the moment that this poison exercises its influence upon the intestinal walls, determining the occurrence of the lesions already described, the bacillus coli commune of the intestine becomes pathogenic, multiplies in extraordinary numbers, and, destroying every other microbic tenant, alone occupies the premises.

6. Given the toxic anatomical lesions of the intestine, this enormous development of the bacilli coli constitutes the primary cause of the secondary infections and localizations so frequent and well known in both human and experimental typhoid.

7. If the bacillus coli emigrates from the intestine under the influence of the typhoid toxine, when the animal is already partly vaccinated against typhoid fever, it never produces a general infection, but, according to the degree of immunity acquired, develops in serous cavities chronic inflammatory processes, which are local, more or less severe, and which may end by recovery.

8. When animals are vaccinated against the typhoid bacillus, they become immune in regard to the bacilli coli; the latter then begin to disappear from the intestine, where they are normally found, perhaps, according to Metchnikoff's views, being destroyed by the epithelial cells of the intestinal mucous membrane, which, in this case, would act as do other phagocytic cells of the organism.

The Necessity of Protecting the Ear in Bathing.

Bathing without properly protecting the ears will not infrequently bring about an otitis media and also other affections of the ear have been attributed to it and as these affections can be prevented by very simple devices the attention of the public should be drawn to the matter. Dr. Lawrence Turnbull, of Philadelphia, has drawn attention to the fact that if the water which has entered the ears in bathing is not removed (which can be done by leaning the head on one side and drawing the external ear forcibly outwards, at the same time shaking the head and opening the mouth, also striking the ear with the palm of the hand) inflammation, followed by perforation of the membrana tympani, may occur in consequence of the decomposition of the water. Or the suppurative process may pass to the middle ear, cochlea and labyrinth, destroying the organ of hearing, and even implicating the brain. A large number of diseases of the ear are attributed to sea bathing, that is, bathing too frequently and remaining too long in the

water. Exostosis of the meatus is particularly common in persons that indulge in the "header." The ears, especially if they are tender or diseased, should always be protected in bathing. Dr. Turnbull advises that ladies should wear an oilskin cap covering the ears and men should close the external meatus with a piece of cotton, or other simple plug, which may be removed after leaving the water. This precaution is particularly advisable for surf bathing and when floating on the back.

BOOK REVIEWS

Syphilis in the Innocent (Syphilis Insontium). Clinically and Historically Considered with a Plan for the Legal Control of the Disease. By L. DUNCAN BULKLEY, A.M., M.D. 416 pages. Cloth. 8vo. Price, $3.50. New York: Bailey & Fairchild. St. Louis: J. H. Chambers & Co., 914 Locust Street.

With a great deal of diligence and care the author of this work has compiled the literature upon the various ways in which syphilis has been acquired by means wholly unconnected with the venereal act including the records of 116 cases of personal observation.

A table has been prepared exhibiting the location of over 9,000 extra-genital chancres, which have been collected from the items given in the Analytical Bibliography.

Another table, as complete as possible, gives the epidemics of syphilis which have occurred from the year 1577 to the present time; this contains data relating to over 100 epidemics, great and small, affecting over 3,000 victims, in addition to the many instances where no definite statistics were given.

The Analytical Bibliography covers about 150 pages and refers to cases reported by 1500 writers. A "Synopsis of Facts and Literature" has been added in which these are all analyzed.

The book is a valuable addition to medical literature and particularly useful as a work of reference and in medico-legal questions. We cheerfully recommend it to students and practitioners.

The International Medical Annual and Practitioner's Index. A Work of Reference for Medical Practitioners. Twelfth Year. Pp. 704. Price, $2.75. 1894. New York and Chicogo: E. B. Treat. St. Louis: J. H. Chambers & Co., 914 Locust Street.

This is a book which no physician can afford to miss in his library. By referring to its pages he can make himself acquainted in a comparatively short time with everything that is new and of practical importance in the science of medicine and surgery. The photographic plates, wood cuts, and pages of the journal are yearly increasing so that it is continuously gaining in value and the success with which it has met is well merited.

MEDICAL SOCIETIES

Societe des Sciences Medicales de Lyon.

ANESTHETICS.

The *Lyon Medicale* for July 8, contains a report of the May meeting of this Society, at which a discussion on anesthetics was concluded (N. Y. *Med. Journ*).

M. LEPINE said that ether caused less bronchial irritation in proportion as it was the purer—it had been said, indeed, that with absolutely pure ether one might anesthetize persons affected with bronchitis. The aldehydes had been noticed among the impurities. Instances would be met with, however, of accidents due to idiosyncrasies. The speaker had recently read in a Swiss journal of the case of a woman, twenty-seven years old, who, after having taken a very small quantity of ether, had ceased to breathe and had recovered only after a prolonged period of danger. This same young woman had afterward been chloroformed without the slightest accident. There was no absolute safety to be found in ether itself. As regards an injurious ection on the kidneys, chloroform was the more dangerous. The speaker mentioned seven patients with albuminuria in whom that symptom had not been augmented by ether. On the other hand, in six other patients, who were not albuminuric, albumin had been found in the urine after etherization, and in one case the albuminuria has lasted fourteen days. The effect of ether upon the general nutrition was analogous to that of chloroform; both anesthetics retarded nutrition, but this effect of chloroform was the more pernicious.

M. MOUISSET remarked that it was generally supposed that in children the respiratory center resisted chloroform better than ether. As bearing upon the impression, he related a case that had happened early in his career, in which M. Fochier had asked him to anesthetize a child who was to be circumcised. At the risk of appearing timid, the speaker had made the following confession: "I have never anesthetized a child, I have never made use of chloroform, and, brought up as I have been in the fear of that anesthetic, I should distrust anesthesia under such conditions." For these reasons he asked M. Fochier to begin the anesthetization himself, for, it was said, accidents occurred for the most part at the outset. Thereupon M. Fochier poured two or three drops of chloroform on a compress which he placed very carefully before the child's nose. Immediately the cries stopped, the child was no longer breathing, it was in a state of apparent death. It was not until after several minutes of anxiety that it was brought back to life by artificial respiration. In bringing this case up the speaker did not intend to combat the conclusions of previous speakers or to invalidate the results of their experiments, but only to insist upon the dangers of chloroform. To account for the accidents observed

in the course of chloroform anesthesia, it was sometimes charged to the inexperience of the anesthetizer and sometimes to an abnormal state of the myocardium. In the case that he had spoken of the patient had been a child, and therefore but little liable to cardiac syncope, and the anesthetization had been carried on by a master and under circumstances that did not admit of any fault being found with it. He would repeat, therefore, that beginners ought to be warned that in exceptional cases there was danger in the use of chloroform, even with children.

M. MAYET referred to the solvent action of anesthetics on the red blood-corpuscles, and remarked that this was more pronounced in the case of chloroform than in that of ether.

M. AUGAGNEUR said that the albuminuria that resulted from anesthesia was transitory, and, being transitory, it could not be due to an alteration of the blood. Any irritation, he said, whether of the skin or of the mucous membranes, might give rise to albuminuria, and in any operation the excitation of the sensory nerves might produce a transitory albuminuria.

M. PONCET asked what proportion of the anesthetic M. Mayet estimated to be present in the tissues at a given time in the course of anesthesia.

M. MAYET replied that it was clear that the quantity of the anesthetic in the blood could not be very great on account of the constant exhalation. To produce hemoglobinuria it was sufficient to mingle one per cent of ether with the blood; it cases of prolonged anesthesia saturation of the blood must be effected.

M. LEPINE said that in animals anesthetized with chloroform 12 per cent of the anesthetic had been found in the blood.

M. GANGOLPHE said that since the year 1875 he had anesthetized or seen anesthetized from nine to ten thous and persons, and he had seen only one case of death. He had, however, witnessed alarming occurrences in a number of instances, always pertaining to the respiration under one of the following heads—threatened asphyxia from liquids vomited and arrest of respiration by tonic muscular contraction. He had very seldom been obliged to resort to artificial respiration, and never to tracheotomy. The accidents produced by ether were respiratory and not cardiac; slight anesthesia might be produced with ether and yet the patients feel no pain. This sort of anesthesia was not possible with chloroform. Chloroform favored the surgeon at the expense of the patient. Anesthesia with ether varied a good deal according to the administrator and according to the patient. The value of injections of atropine and morphine appeared questionable; nevertheless, perhaps they made it practicable to use less of the anesthetic. On the whole, the speaker's impression was more favorable to ether than to chloroform.

M. MAYET said that injury to the vitality of the blood-corpuscles might result from prolonged anesthesia. He believed that in several cases the patients had begun to breathe again, but that after an hour or two real death had supervened. In such cases there probably existed an alteration of the blood involving the impossibility of arresting hemorrhage.

M. BALLAS thought that ether caused a little more increase of the bronchial secretions in children than chloroform; it was no more dangerous than chloroform, but as dangerous.

M. GUINARD reported the curious case of a dog in which intestinal gangrene had been produced between two occlusive ligatures. The animal was anesthetized with ether and the abdominal walls and the peritoneum were cut through without accident, but as soon as the instrument was brought into contact with the gangrenous coil of intestine respiratory syncope resulted, from which it took fifteen minutes of artificial respiration to restore the animal. The anesthesia was then resumed, but as soon as it was sought to begin the enterorrhaphy again a second syncope took place, and this one was fatal.

ABSTRACTS

MEDICINE.

Hepatic Cirrhosis from Gastro-Intestinal Auto-Intoxication.—At the recent International Medical Congress, Hanot and Boix (*Wiener Medizin. Presse; Amer. Jour. of the Med. Sci.*) described a form of cirrhosis of the liver which did not well fit, etiologically, into any of the established categories. The cases thus affected may occur in adults between thirty-five and fifty-five years old, the liver at the height of the disease being large and extending for several finger-breadths below the costal margin, its surface being smooth and even and presenting a thickened and readily palpable margin. The viscus is remarkably hard, and manipulation occasions no pain. The spleen is not enlarged; there is no ascites; no alteration in the venous abdominal circulation, and no jaundice, although in some cases there is a slight urobilin discoloration of the skin. The urine is in most instances normal, though it may contain urobilin and sometimes albumin in small quantity; sugar is not found. In all of the cases of this group a history of alcoholism can be definitely excluded; while tuberculosis, syphilis, malaria and other infectious diseases cannot be demonstrated. These cases do, however, present a history of digestive derangement extending over many years, with or without gastrectasia. In cases long under observation the progressive enlargement of the liver may be evident, while the characteristic hardness is present from the outset. After having reached a certain degree of enlargement the liver remains stationary in size, even for a period of many years. The functional disturbance is slight. In addition to

the derangement of digestion, there may be a feeling of heaviness in the right hypochondrium, tympanites, habitual constipation, and a certain lassitude that makes muscular effort difficult and leads readily to fatigue. There may also be acute attacks of usually transient disturbance, especially of the gastric functions, in the course of which the liver may be observed to increase in size, and the urine to contain urobilin. There may also be attacks of perihepatitis simulating hepatic colic. Histologically, a general sclerosis of the portal spaces may be found, with preservation of the central vein. The interlobular connective tissue extends in varying degree into the lobules themselves; but there is no hyperplasia of the biliary ducts. The origin of this form of sclerosis is to be attributed to the long standing digestive derangement, in consequence of which toxic substances are generated in the gastro intestinal canal. These are absorbed by the veins, and must find their way through the liver by the portal vein, giving rise in their passage to irritation and cellular proliferation. The prognosis as to life is not unfavorable, although individuals thus affected are more prone to infectious diseases than are healthy persons. The prognosis depends upon the condition of the liver cells. Therapeutically, the causative gastro intestinal derangement is to be corrected and infection is to be prevented by the administration of intestinal antiseptics.

Phosphaturic Albuminuria and Glycerine Phosphates.—Robin (*Bull. de l'Acad. de Med; Brit. Med. Jour.*) distinguishes certain cases in which albuminuria is secondary to phosphaturia. As an example, he gives the case of a doctor, aged 43, who in consequence of overwork and mental trouble began to suffer from albuminuria, polyuria and excessive thirst. He became feeble in body and incapable of any mental exertion, began to suffer from a dull headache and attacks of vertigo, and his whole character changed. The diagnosis of interstitial nephritis seemed to be supported by the history of previous attacks of nephritic colic. Milk diet did him no good. Robin examined the urine, and found great excess in the excretion of phosphates, whereas, during the night at all events, the oxidation of nitrogenous material seemed to be diminished; albuminuria was more marked during the night than the day. In spite of a diet rich in phosphates, the patient rapidly improved under treatment, and was cured. This was seven years ago, and there has been no relapse. Robin divides such cases of phosphaturic albuminuria into four classes:

1. Simple cases. These cases have often been included in the artificial group of "cyclic or intermittent albuminuria."

2. Pseudo neurasthenic cases, which have usually been included in the group which constitutes the so-called "neurasthenia."

3. Cases which have been confounded with intestitial nephritis, like the case of the doctor, already described. Such cases are functional, but, if neglected, may run on to actual organic disease of the kidneys, in which case they constitute the last class.

4. Cases of true interstitial nephritis, but having a "phosphaturic" origin. Treatment should be commenced early, for the three first classes are most often curable. The treatment should be directed with the object:

a. To get rid of the exciting causes, mental overwork, over feeding, etc., and to fight against hereditary and acquired arthritism.

b. To diminish nitrogenous waste in general; to hinder excessive catabolism in the organs rich in phosphorus and favor proper assimilation of phosphates; to aid due oxidation.

c. To prevent undue destruction of the red blood corpuscles and favor their formation.

d. To oppose the albuminuria and its causes, whether they be in the general nutrition, the blood, or the kidneys.

In the pseudo neurasthenic class narcotics, ordinary hydrotherapeutical treatment and Weir Mitchell's treatment are to be guarded against. Robin thinks that the disease, described as Bright's disease, is sometimes an anatomical complication of an earlier disease, at first purely functional. In neurasthenic cases Robin (*Acad. de Med.*) prefers to administer phosphates in the form of glycerine phosphates of lime, soda and potash, either mixed together or given seperately. They may be administered subcutaneously or by the mouth, but the latter method is slower and gives less result. He recommends glycerine phosphates in recovery from influenza, in the various forms of nervous asthenia and also in tabes instead of Brown-Sequard's injections, which he thinks owe their virtue to phosphorus compounds. Glycerine phosphoric acid is formed by the decomposition of lecithin, and, therefore, glycerine phosphates are a near approach to a form in which phosphorus is naturally present in nervous tissue.

The Thyreoid Treatment of Skin Diseases —The *British Journal of Dermatology* for July publishes an address delivered before the Inaugural Congress of the Dermatological Society of Great Britain and Ireland by Dr. Byrom Bramwell, of Edinburgh, in which he said that he had tried the effects of thyreoid extract in diseases of the skin with a definite therapeutic purpose, and the extraordinary improvement in the nutrition of the skin produced by the thyreoid treatment within the course of a few weeks in cases of myxedema and sporadic cretinism had suggested to him the idea that the remedy would prove useful in other skin diseases.

That the nervous system exerted a most powerful and important influence upon the nutrition of the skin was being more and more recognized every day, and that the thyreoid extract produced a remarkable change in the nutritive system was abundantly proved by the results which had been obtained in myxedema and sporadic cretinism. The author was therefore disposed to

think that the improvement in the nutrition of the skin was due in some degree to an indirect action through the nervous system. If this opinion was correct, he said, it afforded a clew to the effects which thyreoid feeding produced in some skin diseases; and it had suggested to him the desirability of trying the effects of the remedy in those diseases of the skin which appeared to be due to perverted innervation, and in other diseases, such as Morvan's disease, sclerodactylia, etc. Whether the action was general on the nervous system as a whole, or on certain of its constituents only, it was as yet impossible to say. The point which he wished to suggest was that in some skin diseases the local improvement in the nutrition of the skin was, in part at least, the result of an improved and invigorated condition of the nervous system.

Dr. Bramwell gave a detailed account of twenty cases of psoriasis in which he had used the extract, and the conclusions which he has arrived at are:

1. That in a very considerable proportion of cases the thyreoid treatment produces a temporary cure, the eruption entirely disappears, and the skin is left in an absolutely healthy condition.

2. That in some cases (but they are exceptional) rapid and immediate improvement is produced by small doses.

3. That in others improvement is produced only after distinct symptoms of thyreoidism have developed

4. That in some obstinate cases the disease ultimately yields to the administration of very large doses continued for a long time.

5. That no case should be regarded as hopeless, unless distinct symptoms of thyreoidism have been produced, and the largest dose which the patient can take without being markedly upset has been continued, after the production of distinct thyreoidism, for at least two months.

6. That in other cases of psoriasis the thyreoid extract seems to produce little or no benefit.

7. That in many of the skin diseases in which the eruption is completely cleared off and the skin left in an absolutely healthy condition after the thyreoid treatment, a relapse, sooner or later, occurs. Whether, in cases of this kind, relapse could be prevented by the continued use of small doses, the author could not say.

8. That, so far as he is able to judge, chronic cases in which the skin lesions are stationary are, as a rule, more easily cured than recent cases in which the spots of eruption are small and in which the disease is constantly coming and going.

The total result of his experience showed that thyreoid extract given by the mouth was of great value in a considerable proportion of cases of psoriasis, and he had no hesitation, he said, in saying that, when given in the manner he had advocated, it was the most valuable internal remedy which had yet been discovered for the treatment of psoriasis.

In the treatment of lupus the results obtained seemed to show that the thyreoid extract was capable of producing considerable improvement, and the author had found the results encouraging and, up to a certain point, favorable. Other cases of skin diseases, such as ichthyosis, eczema, pemphigus, etc., were cited by Dr. Bramwell, in all of which marked improvement had been obtained.

With regard to the effects of large doses, the quantity required to produce distinct symptoms of thyreoidism was variable in different persons. In some cases of psoriasis the patients were not susceptible to the action of the drug; in others the patients complained of debility. In some patients very rapid action of the heart, the pulse being from 120 to 140 a minute, had persisted for several weeks. In healthy persons elevation of the temperature was much less readily produced than acceleration of the heart's action. Some increased in weight and got fat during the treatment. This had been specially noticeable in some of the cases of psoriasis in which the most rapid and beneficial results had followed. In others, again, the administration of the drug had been attended with loss of weight. No striking alteration had been observed by the author in the condition of the urine produced by large doses of the drug or its long-continued use. In none of the cases had albuminuria been observed, and in only one glycosuria. In some cases suppurative lesions had developed as the results of an overdose.

With regard to the dose and mode of administration, the author always began with small doses. The remedy, he said, was undoubtedly a powerful one, and it was impossible to tell how it would be born or in what quantity it would be required in individual cases. In diseases in which the object was to clear off the eruption rapidly it was advisable to give as large doses as each patient could take. In cases of psoriasis the administration of large doses was very important. In lupus, on the other hand, where the use of the remedy usually had to be continued for very long periods, small doses should be given, and the production of distinct symptoms of thyreoidism avoided. The dry extract in the form of tabloids was, on the whole, the most active and convenient preparation. The author invariably gave the remedy by the mouth. Subcutaneous injection had, he thought, no advantages whatever, and was attended with some risk. In the great majority of the cases the diet had been unrestricted. In some a milk diet had been employed for a time; in others a dietary from which sweets and red meats were excluded had been prescribed.—New York *Med. Jour.*

Treatment of Atonic Gastric Dilatation.—Wegele (*Munch Med. Woch.; Ther. Gaz.*) deals with the severer forms of this disease, and not with such as accompany any gastric affection lasting over any considerable time. For the practical distinction of mild from severe cases the test breakfast is useful; in marked cases remains of food are found in the water used for washing out the stomach on the following morning,

whereas in mild cases the stomach is able to deal with such moderate demands. Pronounced atonic dilatation is not, in the author's opinion, such a rare event as is sometimes represented. At first the dry diet was employed, and for slighter cases it sufficed; but a rigorous carrying out of this regimen was often of disadvantage Washing out the stomach proved a great advantage, as in this way the stomach was freed of very acid and fermenting contents. Here, however, a considerable amount of nourishment is withdrawn, and the patient's nutrition and weight may suffer. Rectal alimentation must, in addition, be had recourse to; either water alone or the desirable food stuffs may be thus used. The amount of urine passed is a practical measure of the gastric insufficiency. By a strict dry diet and supplying the necessary water by the rectum, the patient's condition may be very greatly improved. Clysters containing grape-sugar are apt to ferment and to produce diarrhea, and the same is true of those containing peptone, frequently repeated. The diet must be suited to the condition of the gastric chemistry. If hyperacidity is present, large doses of alkalies are indicated. Washing out the stomach is, according to the author, best done in the morning Raising the foot of the bed is said to be useful in helping to empty the pyloric antrum. If fermentation is present, harmless antiseptics should be added to the water, and salicylic acid, creosote and bismuth salicylate given internally. If the abdominal walls are lax, a belt should be used. The author says that the prognosis is considerably improved by the use of the dry diet and supplying fluid by the rectum.

Dry Gangrene of Nervous Origin.—Panas (*Bull. de l'Acad. de Med.; Brit. Med. Jour.*) read a communication on a case of dry gangrene. The patient, aged 35, was of nervous temperament; the father gouty, and died of heart disease, aged 50; the mother hysterical; the brothers and sisters also showed signs of extreme nervousness. Careful examination revealed no trace of syphilis, diabetes, albuminuria, or alcoholism. Six years since the patient began to experience lancinating pains in the upper limbs, which disappeared at the end of three months, to give place to similar pains in the lower, with the appearance of some scattered red patches on the left leg. This continued two months, and there was freedom from pain until November, 1898, when the same pains recurred in the left leg, with cutaneous venosity. Two phlyctenulæ appeared, one at the tip of the big toe, which soon healed, the second in the first interdigital space, which became the seat of a black gangrenous patch, which proceeded to invade the neighboring toes. The gangrene spread, involving both dorsal and plantar surfaces of foot, and amputation was performed in the upper third of the leg with perfectly satisfactory results from the surgical point of view, cicatrization being complete in twenty days. But the pain, so far from being ameliorated, became much worse and resisted all treatment. Hypodermic injections of morphine, antipyrin, chloral, potassium bromide, bromidia, sulphonal, electric currents, and baths of oxygen and carbonic acid were all tried in turn. Finally salicylate of soda was tried in doses of three grammes a day, and to this the pain yielded to a large extent; the patient's state being so much ameliorated that he could undertake a voyage. But he still continues to experience some twinges both in the amputated and other limbs. A noteworthy fact at the amputation was the absence of arterial hemorrhage, only the posterior tibial demanding a ligature. On the other hand the veins were very full and bled abundantly. Macroscopic examination showed arteries and deep veins obliterated and reduced in volume, but there was no trace of clot. Microscopic examination showed proliferation of endothelial sheaths, the elastic coat much folded, the muscular coat normal, the adventitia rather thickened. The nerves, especially the anterior tibial, showed an alteration in a large number of fibers both in longitudinal and horizontrl sections. Diagnosis: Endovasculitis, either of gouty origin or consecutive to nervous origin.

The Relation of Slight Degrees of Albuminuria to Life Insurance.—Dr. G. V. Poore, of London, recently delivered an address on this subject before the Life Assurance Medical Officers' Association, a report of which appears in the *Lancet* for June 16. The author thinks that it is a subject of great importance, and one which is of interest to medical officers and managers, many of whom are under the impression that there is a growing tendency among medical officers to keep away business on the ground of albuminaria, which, to them, does not always seem a sufficient reason. Of late years, he says, there have been several new tests for albumin, and, although they are very delicate and very convenient, they precipitate peptones, albumoses and alkaloidal bodies in addition to albumin, and he thinks that our knowledge of the clinical import of these bodies in the urine is too imperfect to allow a definite line of action to be taken in relation to the insurability of the lives of persons whose urine gives evidence of their presence. If a cloud appears when these tests are used, the older and commoner test should be resorted to in order to confirm the presence of albumin before recommending the acceptance or rejection of the risk. The discovery of slight and unsuspected albuminaria should, the author thinks, call for a second and careful examination to be sure that some of the usual concomitants of such a condition have not been overlooked. A trifling hypertrophy of the heart, slight pallor, deficient body weight, etc., or any slight evidence of an old syphilis, at once assumes an importance when joined with slight albuminaria which otherwise it would not possess. In the case of candidates whose general appearance gives a doubtful impression, it is well to postpone recommendation until the urine has been examined. The discovery of slight albuminuria is thus of great importance, because it necessarily tinges all the facts of the case, including the family history, and gives an importance to trifles which

otherwise might be neglected. If, on finding a trace of albumin in the urine, and a second examination does not show any adverse fact, there should be a third examination after an interval of a week or two in order to allow ample time for the subsidence of any temporary disturbance which may have caused the albuminuria. This examination will reveal whether the albuminuria is temporary or permanent. If it is slight and temporary, and the candidate is otherwise sound, with no suspicion of intemperance, and the family history is good, Dr. Poore would be inclined to recommend him as an average risk, but at the same time he would take into consideration trifles which, under other circumstances, he might overlook. If there is slight and permanent albuminuria, the author thinks that perhaps the majority of lives would have to be rejected, or, if they were accepted, an extra premium would have to be charged. The eligibility of a candidate for life insurance depends on a variety of circumstances, and, while on the one hand none of these can be neglected, it would be unwise to allow any one fact to outweigh all the others. Since it has got to be the custom to examine the urine of patients, there has come a knowledge of the fact, not only that albuminuria has become much more common, but that albumin may be temporarily present in the urine of those who show no reliable evidence of kidney disease, as the result of various causes, such as cold bathing, excessive exercise, etc.

Dr. Poore states that the death rate from urinary diseases is tending to increase steadily, and that since 1858 it has doubled. A part of this increase may be accounted for by the increased knowledge and change of nomenclature, but he thinks it is not all due to these causes, and so startling a fact should not be neglected. Clearly, then, he says, albuminuria is a matter which demands very careful consideration by examiners for life insurance, and also by managers and actuaries.

OBSTETRICS AND GYNECOLOGY.

A New Operation for Procidentia Uteri.—In a short preliminary Dr. H. W. Freund (*Centrbl. f. Gynecol.; Pac. Med. Jour.*) calls attention to two cases of procidentia uteri cured by means of silver wire sutures circularly drawn underneath the mucous membrane of the vagina. The sutures are placed in such a manner as to form a supporting pillar to the uterus and tightened sufficiently to prevent prolapsus after replacement. The technique is simple. The silver wires, usually four or five in number, are drawn by means of a curved needle underneath the mucous membrane of the vagina, the first wire being about one inch from the os externum. The wire is carried underneath the mucous membrane to its full circumference, always re entering the puncture of exit until it reaches the first puncture when the portio vaginalis is pushed back by an assistant and the wire drawn tight, twisted and allowed to sink beneath the mucous membrane. In distances of three-fourths of an inch the sutures are introduced until the vagina is re-inverted and the uterus replaced. Care must be taken not to allow any of the wire to lie on the surface lest suppuration and necrosis should follow.

In the two cases reported only local anesthesia was resorted to and the results were highly gratifying. The cases operated upon had both passed the menopause and the author questions the advisability of using this procedure on women liable to become pregnant.

The idea of this operation originated from Thiersch's method of treatment for prolapse of the rectum in children.

NOTES AND ITEMS

A Chinese Dinner.—There is no one that loves good eating more than John Chinaman. Like the old Roman sybarite, he has been known to spend his last coin upon a gala repast and then cheerfully commit suicide. No matter how exclusive they may be, the "celestial" is bound to have the delicacies of the "Flowery Kingdom" in even the uttermost parts of the earth. Every day in New York you can see a score of pig-tailed gentlemen in the neighborhood of Mott street each carrying a huge brown paper bag. If you could open these mysterious packages you would find desiccated shrimps and prawns, pickled Amoy cabbage, delicate little tubers known as "ma-tai," bitter cucumbers, dried devil fish, Awaki clams from Japan, smoked oysters, preserved sharks' fins, pots of sweetmeats, funny sausages and lots of dainties for which there is no name in English. A poor laundryman will spend a quarter or a third of his income upon these luxuries, and will devote a half day of his precious time in cooking them in approved Mongolian style.

At home our almond-eyed cousins go to greater lengths, and give dinners that would simply paralyze the average American health reformer. If you are ever in China or such Chinese lands as Hong Kong, Singapore, or Saigon, and are invited by some mandarin or wealthy merchant to a banquet, thank Providence and go at any risk. Go with a good appetite and a well-developed thirst; if possible go without eating in the preceding twenty-four hours. No matter whether you are an old friend or a perfect stranger, whether you speak your host's language or not, you are received as a prince of the realm. The donor of the feast meets you at the threshold, bows until you feel apprehensive that he will fracture his spinal column, shakes his own hands convulsively, and, somehow or other, leading, bending, backing, and siding, lands you in the dining room or in an ante room alongside. The other guests arise at your appearance and go through a similar but briefer performance. Before the meal, tea and wine are handed

around, cigarettes and pipes are offered, and if you are a devotee of the poppy a cosy bunk and handsome lay-out invite you to calm the soul a minute by hitting the pipe.

DINNER A LA CHINOIS.—You are seated in a massive ebony or teak chair, handsome with carving, ivory and mother-of-pearl, but a trifle too straight and angular to be comfortable. Upon a stool, partly behind and partly beside you, sits a "sing song girl." She is an institution peculiar to the land of Confucius. She is pretty, shapely and young. Her silken robes are dazzling with color and embroidery and her face with paint and cosmetics. She is a singer, violinist and all round musician. She is also a waiter. She guards a box of cigarettes and a silver water pipe garnished with a lighted paper portfire. If during the meal you desire a whiff of the weed, a word or gesture brings a cigarette to your lips. It may please the reader to know that it is almost always an American cigarette which is used. There is no special favorite. Every brand which perfumes the air of Broadway appears on the same salver. Besides this, the "sing song girl" must keep your plate supplied, your tea cup filled and your wine cup provided.

The table is a queer work of art. The china and porcelain are superb, so beautiful that in this land of collectors they would be placed in cabinets. There are no knives or forks. The celestial mind regards cutting and carving a labor unworthy of a guest, and relegates it to the cook. In lieu of forks are chopsticks—long, slender bars of ivory, tipped with silver or gold. The spoons are films of porcelain; the wine glasses are cups like those in children's doll houses. Your plate is a saucer and your napkin a silk towel held by a servant. The table is handsome, nevertheless. It is nearly covered with dainty plates containing hors d'euvres piled up in slender pyramids. One pile consists of peeled bananas, cut into little drums; another of pineapple, carved into tiny bars, like miniatures of laundry soap; a third of crystallized dwarf oranges, moistened in honey; a fourth of fine onion sprouts and a fifth of preserved eggs, dark green, and suggesting sliced cucumbers. Other plates contain sliced sausage, pickled cocks' combs, hard boiled pigeon's eggs, sweet pickled shredded ginger, sliced water chestnuts, dried fish segments, desiccated prawns, smoked fish roe, and a score of other and equally incongruous dainties.

You help yourself to any of these, both before and during the banquet. In the meantime the waiter or the "sing song girl" has filled your teacup with fragrant Oolong and your wine cup with boiling wine. From this point neither cup is permitted to remain empty nor to grow old. If it stands longer than the time allotted by Mongolian etiquette, it is removed and replaced by a hot one. After a few minutes of nibbling and sipping the courses begin to arrive and continue to arrive as long as there is a soul at the board. Soups and stews, omelettes and entrees, roasts and boiled, ragouts and fricasses, croquettes and vol au vents, sweet dishes and sour follow one another without apparent rhyme or reason. At the end of every half-hour you take a recess of from five to fifteen minutes. Everybody lights a cigarette or puffs a water pipe. A few retire to one of the bunks and smoke a pill of opium. The "sing song girls" perform a brief concert, vocal and instrumental, and again the meal proceeds. It is a poor dinner that has less than twenty courses. Some have forty and fifty, and a few pass the hundred mark. You eat what you please and as much as you please. Scarcely any dish is simple; some contain twenty ingredients. The average banquet uses pork, fresh, salt and smoked; pigs' brains, liver and kidneys, chicken, duck, pigeon, quail and goose; fish, fresh, dried, salt and smoked; eggs of at least four kinds, rice, pastry, beans, peas, cabbage, millet, lentils, onions, garlic, leek, cucumber, squash, melon, gourd, potatoes, white and sweet; yam, ma-tai, bean sprouts, spinach, turnip, parsnip, carrot, devil fish, dragon fish, fish roe, clams, oysters, crabs, seaweed, mushrooms and tree mushrooms, birds' nests, sharks' fins, chillies, orange peel, ginger, cocoanut, macaroni, and heaven knows what not.

Nearly every dish is wholesome and delicious. Some are so simple that you wonder they have never been adopted by our own cooks. Of course a typical example is the chicken liver ball. It is made by mincing chicken liver, mushroom, onion, a little pork, salt, pepper and cayenne, rolling this into balls the size of a small marble, dipping in egg and frying to a bright, red brown. The tiny globes are light, extremely palatable, and nutritious to the last degree.

CHINESE DAINTIES.—Large, fresh mushrooms are salted, peppered, dusted with rice flour, dipped in beaten egg and fried over a hot fire. It is practically a mushroom omelette in which each omelette is but a single bite. A third dish, which seems half familiar, is made by stewing oysters, sweetbreads, onions and mushrooms together and serving with a cream sauce.

Chow-gai-sse men, a famous Cantonese dish, is a saute of boiled macaroni, stewed, shredded chicken, chopped onion and mushroom, with a warm aromatic sauce. Wumtum is an Eastern form of the Italian ravioli. It is nothing more than a fine chicken consomme, in which are floating tiny meat dumplings. In one dumpling is force meat made from chicken, in another from duck, and in a third from pigeon.

The hot dishes and hot drinks produce perspiration. The moment the aqueous beads appear upon your brow an attendant hands you a silk towel wrung out from boiling water and still steaming. You mop your face, neck, hands and wrists with the scalding cloth and dry them with a second. The heat is great for a second, but is followed by a reaction which keeps the skin cool for the next quarter of an hour.—*Popular Medical Monthly.*

Indians and Tuberculosis.—At the recent session of the Colorado State Medical Society, Dr. H. R. Bull (*Medical Age*) presented a paper upon this subject that was based upon material gathered during five years'

experience in charge of the Indian school at Grand Junction. Dr. Bull declares Indian children are much more subject to tuberculosis than are those of white parentage, and that it is especially apt to develop as a sequel to la grippe or insignificant local suppurating maladies. It is, moreover, very acute and rapid in course, and no treatment has ever been of avail that did not include an almost constant out-door life in the mountains during the summer.

Mortality, moreover, he estimates to be in direct pro portion to the amount of climatic change between the reservation and the school.

Immoral "Massage" Establishments.—The *British Medical Journal* says: "We have received communications suggesting that an association should be formed for those who have gone through a proper course of instruction in massage and obtained certificates of proficiency, and asking our assistance in the preparation of a list of good and satisfactory workers. The suggestion is, however, beset with difficulties. We understand that a good many 'massage shops,' the advertisements of which are frequently inserted in one or two of the fashionable daily papers, are very little more than houses of accommodation. A very common plan, we are informed, is for some man with a little capital to open an establishment of this kind, and then to advertise for half a dozen young lady assistants to do the work. Their remuneration is nominal, but they are at liberty to accept presents from the customers, who pay the principal from half a guinea to two guineas for each visit. If the young lady is willing to make herself 'agreeable' she is retained on the staff, but if she has conscientious scruples she is discharged and some one is found to take her place. This is so well understood that young men about town often make a tour of these establishments. Many of these girls have certificates, but they, as a rule, have spent their last penny in getting instruction, and, little by little, drift into a mode of life which is often most distasteful to them. The men are often not much better, and it has become a fashionable fad for certain ladies of position to frequent the rooms of a young and good-looking masseur. We are given to understand that the subject has attracted the attention of the police, and that quite recently one of the best known of these places has been raided and stopped. Certificates in 'massage' are given, even by qualified medical men, after the most perfunctory course of instruction. The women are told that they can make a good income, but as soon as they are squeezed dry they are turned out to shift for themselves. Some of the stories of the unfortunate victims which have come to our knowledge are almost incredible. These facts have been conveyed to us privately and on reliable authority, but we fear much difficulty would be experienced in getting these young women to testify in a court of law. Our impression is that the legitimate massage market is overstocked, and that no woman, unless she has a private connection, has the slightest chance of getting a living by massage alone—at all events in London. We are afraid that nothing could be done in the way of registration unless the ground could previously be cleared of what is undoubtedly a great social scandal. It would be difficult, at all events at first, to refuse a place on the list to any woman who has a certificate from a legally qualified practitioner, and yet in many cases such recognition would mean neither more nor less a recognition of prostitution. This may seem a very strong statement, but we can not well discredit information which has come to us from very various and well-authenticated sources."

A Correction.—In an editorial of the REVIEW, issue of July 14, we find the title of State Veterinarian instead of Deputy State Veterinarian attached to the name of T. E. White, D.V.S., and in justice to him, we wish to state that this has been an error on our part and that Dr. White had nothing to do with it.

EXCURSION TO WASHINGTON, D. C.—On account of the Knights of Pythias Conclave at Washington, D. C., the Baltimore & Ohio Southwestern R'y offers a rate of one fare for the round trip from all points on its lines. Tickets on sale August 22d to 26th, good returning until September 15th. Splendid opportunity to visit the National Capital at low rate. For particulars apply to any Agent Baltimore & Ohio Southwestern R'y, or address, T. C. WELLS, Dist. Passenger Agent, 105 N. Broadway, St. Louis, Mo.

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VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Medullary Cancer in the Posterior Vena Cava.

BY DR E. G LIST, HAVANA, ILL.

On July 25 I was called to see a small cart mare which was driven to a milk wagon. I arrived about a half hour later to find the mare dead from internal hemorrhage, as mucous membranes were very pale and livid; she had passed considerable blood per anus. Upon inquiry I learned from the owner that the animal was in perfect health seemingly before she was hitched, eating her usual feed and starting off in good spirit, but

after three or four blocks she began to lag back; presently she was noticed to pass blood per anus. As soon as she was found to be sick she was taken back to the barn with difficulty and I was called. In all she had been bleeding about three quarters of an hour before she died. Being accompanied by Dr. Robinson, my assistant, we set about to hold a post-mortem.

On cutting through into the abdominal cavity in the usual manner and removing stomach and intestines as far as possible, there was found a hard tumorous mass of fibrous tissue at the connection of the mesentery with the superior abdominal wall, the posterior vena cava passing through it about the center; after careful dissection this tumor, including the mesentery and posterior vena cava for about eight inches in length, weighed ten and three-fourths pounds. Desirous to know what could have caused this condition, I dissected it through its center and to my great surprise discovered a smaller tumor weighing one pound and three ounces, conical in shape, its apex being anterior, the base posterior, located inside the vena cava, and loosely attached by its base to the inner wall of the vein. In order to admit the tumor and allow the passage of the blood, the coats of the vein were ruptured and greatly distended, so large that it would admit one's closed hand. The small tumor presented a degenerated appearance, as did the coats of the vein at this part. I think that from this condition the coats of the vein were so weakened that they gave way, causing a complete rupture slightly posterior to the tumor, whence the hemorrhage with the results above mentioned.—*Am. Vet. Review.*

Fusion of Temporary Inferior Molars with Inferior Maxilla in the Horse.

BY PROF. W. L. WILLIANS, D V.S.

In a previous paper the abnormal adhesion of temporary teeth was suggested as a possible factor in producing aberations in the development of perfect teeth.

Not long after contributing the article cited, a case presented itself which was quite unique, and although odontones did not result in so far as aberation in the disposition of the dental tissues as concerned, effects of an equally profound character were produced which go far to demonstrate that these abnormally adhesive crowns may, and do, cause odontones in some cases.

The patient was a medium sized, well formed grade, French draft gelding, but three years old. He had been worked for some months in a coal wagon and when presented for treatment was in poor condition, because of the pathological conditions rather than of excessive labor.

Two spherical tumors presented, one on either ramus of inferior maxilla, each about four or five inches in diameter, centering in alveolar cavity at position of pre molar. The tumors were hard, evidently of bone, and were painful to touch. Mastication was imperfect, painful and accompanied by frequent quidding.

Exploration of tooth crowns revealed nothing noteworthy.

The tumors were freely trephined at about their center, and in one of these was found some pus containing particles of food.

In both tumors apparently healthy tooth tissue was encountered, which after clearing away the investing bone so that a clear view could be had, proved to be healthy, naturally-formed molars, disposed almost longitudinally in relation to inferior maxilla, the fang pointing forward and slightly declined, the crown backwards, slightly ascending.

The viciously disposed teeth, after comminution with chisel and mallet, were removed, when temporary crowns were found still undisturbed projecting into the mouth. Water could be thrown through trephine opening into mouth and to insure recovery the removal of temporary crowns was determined upon and the tumor cavity extending up against them, it was presumed that a slight tap on the punch from below would promptly send the persistent crowns into the mouth. In this, however, we were promptly disappointed and only succeeded in dislodging the crowns after some quite hard hammering.

When the crowns finally came away and were examined it was found that the alveolar processes had in part come away with them, there being perfect fusion between crown and alveolus, so intimately blending as to render it impossible with the naked eye to say where one ceased and the other began.

The case made a slow but complete recovery. It seems fair to conclude that adhesions of a much less degree might, by infringing upon the rapidly forming permanent tooth, cause aberations in its structural growth and thus lead to the formation of well-marked odontones.—*Am. Vet. Review.*

Tetanus by Contagion.

BY J A ROBINSON, MARKET DEEPING.

On February 16th I docked a two year-old filly belonging to a tradesman in this town. The animal was of a very nervous disposition, but took no more notice of the operation than is usually the case. Ten days afterwards the owner came to my place saying he thought his mare was suffering from pinkeye, as its eyes had a very peculiar appearance. On visiting it shortly afterwards I found well-marked tetanus, which developed so rapidly that notwithstanding the administration hypodermically and per rectum of most of the sedatives in the pharmacopoeia (the owner being, like the patient, very nervous, and persisting in having something done), the animal died on the fourth day of the disease and the fourteenth after the operation.

On March 4th I castrated a two year-old colt which was sent to my infirmary for that purpose. The opera-

tion was by torsion, my usual method. On meeting the colt at exercise a week afterwards, the wounds in the scrotum had almost entirely healed, and as his owner was anxious to get him at work I told him he could begin to use him in a few days.

On the 20th I was asked to look at him, as he seemed to be very stiff, and to have a peculiar look about the eyes. On visiting him I found all the symptoms of incipient tetanus, and as I had never before had a case of either docking or castration that had given me any after-trouble, I began to think that in prospect of another unfavorable termination, the fates were dealing rather hardly with me. The particular point of interest in this case is that on first visiting him I found hung up to dry within a few yards of his box the skin of the filly which had died, the carcass having been purchased by the owner of this case (a saddler) in the ordinary course of his business. The skin was now partially dressed, but the owner said it had lain in the yard in its fresh state for several days after the colt had been castrated.

The source of contagion seems to me to be more clearly proved in this case than in any previously reported, as generally where cases occur together, they appear to be more of an enzootic than a contagious nature. No case of tetanus has, to my knowledge, occurred in this district for more than twelve months previously to these, and I have had none since, though it is the height of the castrating season. This case was favorably situated as to locality, being in a quiet place, and the box warm and roomy.

The disease increased in intensity for twelve days, at the end of which time every muscle of his body seemed to be in a state of contraction and the animal suffered intense agony. From this time the symptoms gradually subsided, and with the exception of his being thrown back by his dislike to slings, into which we were forced to put him, as he was unable to rise when down, the patient made an uninterrupted recovery, much to my relief; for, in the country, where every man knows more about his neighbor's business than his own, these sort of cases are anything but pleasant.

The patient, during the course of the disease, received no medicinal treatment, but had every possible attention paid to his comfort. He was always able to suck up fluids, and though only able to swallow with great difficulty, still managed to take sufficient nourishment to maintain himself in better condition than might have been expected, considering the immense amount of tissue waste taking place.

At the last meeting of the Yorkshire Society, a gentleman observed that he did not see how tetanus could arise from docking unless the operation was performed with dirty instruments, or in a rough and careless manner. When practicing some years ago in Wales I have known horses to be docked by being backed up to a gate and the piece of tail chopped off with a carving knife and mallet, the stump being seared—not half seared either—with any piece of iron that was handy and put in the fire. Another method was to leave on a ligature and to tie the hair over the stump with a ball of horse dung placed against the raw surface. As to castration, scores of colts were castrated by men who looked as if they never washed either themselves or their instruments from the commencement of the season to the end of it; but I am not aware of a case of tetanus following either operation in that district.

I am of opinion that the method of operation is not of nearly so great importance as the condition of the animal to be operated upon, and that in those cases where tetanus follows an ordinary operation, it is the individuality of the animal attacked which renders it a prey to organisms which are unable to find pabulum in the tissues of others whose condition appears to be exactly similar.

Prolapsus Recti in a Filly.

BY MICHAEL POTTIE, M R C.V.S., SEAHAM HARBOR.

On the morning of May 4th last I was requested to visit a yearling hackney filley thought to have been injured about the anus. She was grazing at the time of the accident, but was subsequently removed to a loose box.

On entering the box I noticed a mass of jelly-like material, about the size of a child's head, underneath the tail, and scratches about the legs; she was rather uneasy, and pressed occasionally. A halter and twitch were put on, and after examining and bathing the protruded part, I gradually returned it to its normal position. The posterior part of the bowel was then emptied by my hand (this caused her some uneasiness, the feces being very dry) and an enema was given of warm water and linseed oil, which she expelled almost as soon as it was introduced. A truss was then applied, made with a piece of thin rope and a small pad secured against the anus, as the rope seemed not sufficient. I then gave her a pint of linseed oil and 1oz. tinct. of hyoscyamus, and left instructions to feed cautiously on grass and sloppy mash with an alterative powder in it; to give enemas every two or three hours and sedative medicine if required. As the enema did not bring away the feces, they had to be removed occasionally durir g the day.

Next morning she was dull, slightly fevered, and pressed at times, but after the rectum was emptied (which contained dry feces) and another full pint of oil had been given she seemed easier. We then removed her to a temporary stall with a sloping bed of moss litter high behind and low in front. The truss was removed, but she was unable yet to pass feces herself.

On the third morning there was not much improvement, so I at once gave her a 5 dr. physic ball and made her as comfortable as possible, and at night she began to purge; the grass was then mixed with hay until she stopped purging. Her bed was leveled gradually, and now she seems all right again.

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ORIGINAL ARTICLES

Medical Expert Testimony.

BY W. B. OUTTEN, A.M., M.D,

Dean, and Professor of the Principles and Practice of Surgery of Beaumont Hospital Medical College, Etc.

Certain it is that of all experts testifying before courts of law none seem to receive as much abuse as the medical expert.

The reasons which have led to this at first glance appear to place the entire burden of fault upon the medical expert, but upon close investigation it will be found that surrounding conditions, as exemplified in court, attorney and jury, are as equally culpable. Colton very truly says: "It has been shrewdly said that when men abuse us we should suspect ourselves, and when they praise us—them. It is a rare instance of virtue to despise which we do not deserve and still more rare to despise praise which we do."

Broadly stated expert testimony is an expression of opinion under oath. What is an expert? According to Webster he is "an expert, skilful or practiced person; one who has skill, experience or peculiar knowledge on certain subjects of inquiry in science, art or trade, or the like; a scientific or professional witness."

In law experts are that class of witnesses whose special knowledge, skill and experience qualify them to form a correct judgment upon matters which are not within the knowledge and experience of ordinary persons. The medical expert then is supposed to have special knowledge, skill and experience in medicine. First it is not necessary according to the existing tenets of the law that the medical expert should have practiced his profession, neither does the law take cognizance of what particular school of medicine the expert belongs. Secondly, "the extent of the previous study and investigation and the amount of skill and information which must be shown will depend upon the facts of each particular case. But some special and peculiar knowledge or skill must be established, the amount of it to be determined by the trial judge in his discretion The possession of such knowledge and skill is presumed in medico-legal cases if the witness is a licensed practitioner." Tracy C. Becker, Medical Jurisprudence, Forensic Medicine and Toxicology, edited by W. A. Witthaus, and Tracy C. Becker, Vol. I, Wm. Wood & Co.

It is not relevant to the subject matter of this paper to discuss the justice of the medical expert claiming other than the ordinary fee while it is held in some States that the expert does not stand upon the same footing as an ordinary witness. That he is in the position of imparting something of value, that his knowledge, skill and experience, "which is his property as much as any other thing movable or immovable of which he is possessed"—Becker. Under the practice of the courts of this country the expert is selected by the litigants. The amount of special and peculiar knowledge or skill of the expert is to be determined by the trial judge, and he is oftentimes a very good lawyer, but a very poorly informed person in a medico-legal way. The proof demanded does not generally bear the stamp of much profundity of thought; the statement of the qualifications of the expert is usually made by the expert himself. He may qualify himself by proof of his legal right to practice the profession in which he is engaged, or by showing that he is conducting a business a wide knowledge of which he should, but may not have. To testify as an expert there is usually no proof either offered or required as to fitness; generally the fact is accepted that the expert has been or is engaged in a business or profession which should give him the required knowledge and experience to qualify him. The question of his actual knowledge is left to be ascertained from his own answers on cross examination.

And as before stated that the possession of such knowledge and skill—in the medical expert—is presumed in medico-legal cases if the witness is a licensed practitioner. A legalized or licensed practitioner in our country, particularly in some Western States means merely a self-imposed or authorized prefix to a name to constitute a full fledged physician. I was once informed by a medical student who had failed to pass the final examination at a medical college, that he was now a legal practitioner, that he had passed a satisfactory examination before a local board of examiners in a neighboring State. Upon inquiry I elicited the fact that the local or county board in which he was practicing consisted of a blacksmith, a bar keeper and a justice of the

peace, and as our informant expressed it that there was "not much medicine in the crowd, but a good deal of muscle and whisky." Again in some States no qualification whatever is exacted, while again in others a limited period of time as an inhabitant of that State constitutes a legalized practitioner. In order to demonstrate the utter and complete inutility at times of the term "legalized practitioner" a few illustrations will not be out of place. Thus a passenger on a railway train by the overturning of a coach sustained severe contusions about the back extending from the shoulders to buttocks, together with a fracture near the left wrist and a contusion of the right ankle joint. In describing his injuries he said, "My left leg was broken, shivered I think, my left arm broken, and also my right collar bone, my back and sides bruised, and a plug cut out of my lip," and sued accordingly. Immediately after the injury he walked without assistance a distance of six hundred yards, transacted business, boarded a train and rode one hundred miles, and then drove in a wagon five miles into the country. At no time from the accident to the trial was he unable to walk. He went to another State and there a doctor treated the fractured wrist with brown-paper and vinegar, which was all the medical treatment the injured man received. In the deposition of this doctor who had qualified as an expert occurs the following:

How long have you been practicing medicine?

For the past thirty years.

Where did you graduate?

I never graduated; don't see any use in it.

How many bones, doctor, have we in the wrist?

Only one.

What is that bone called?

The nuptial bone.

How many bones have we in the forearm?

One.

What do you call it?

The meridian bone.

How many bones have we in the thigh?

One bone.

What do you call that?

Call it the curb bone.

Are you not in error both as to the number and the names of these bones? Have we not eight bones in the wrist joint, not to speak of the radius and ulna which form the articulation of the joint?

That mought be, but during the war my books got burnt, and I haint had any since.

Another illustration in the same case: The expert in wit perhaps if not in knowledge in the matter in issue, who appeared to find most favor in the eyes of the jury, answers as follows:

Are you a surgeon?

Yes, sir.

Is it necessary for a surgeon to understand anatomy?

Yes, sir.

How long is the spinal cord?

I don't know.

Where does it begin and where terminate?

I don't know.

How much does it weigh?

I don't know.

The attorney becoming annoyed at the nonchalance with which the doctor confessed his ignorance asked with some asperity: Does it run up and down, crosswise, diagonally, or how?

The doctor winked at the jury and answered: I think so.

The attorney changing tactics, and in the blandest tone, asked: Doctor, you claim, I believe, to be a good surgeon and a good anatomist?

Yes, sir.

What is the flexor accessores seu massa carnei Jacobis Sylvii?

The doctor said quickly, I declare I don't know, unless it is an inquisitive lawyer.

And still the verdict was for a good amount.

Again upon one occasion a legalized practitioner was testifying as an expert in a case where a lady passenger upon a railway train had been injured and in the course of his examination boldly declared that a retroverted womb with existent adhesions had been caused by the accident, when it had been proven that this condition had existed some years prior to the accident. In the process of cross-examination the doctor indicated much ignorance and confusion as regards his views of versions and flexions of the womb, and was finally asked in what condition he found the lady's prostate gland, and very gravely answered that it had not fallen yet, but there were very serious doubts about it remaining in its normal position. Thus while it may be seen that a legalized practitioner presumably under the law constitutes an essential basis of the expert yet in reality oftentimes is the reverse. It is a fact noted not only by attorneys of experience but by others attendant upon court that experts are more frequently selected not because they are especially well qualified or most competent to form a correct judgment, but because their opinions are known to be favorable to the cause of the litigant and at whose instance they appear in court. It is unfortunate but the natural trend of most men is in the direction of partisanship and equally unfortunate that the medical expert is very rarely superior to this trait. In fact it comes very nearly being characteristic and in this our experience specialties seem to strangely influence this course. The testimony of an expert is for the most part not given from the witness' own examination and ascertainment of the material facts but upon hypothetical cases which are supposed to embody the facts in evidence in the cause, but which confessedly may not embody all the facts material to the formation of a correct judgment. This hypothetical case framed and formed by one versed in law and not medicine, its base is built upon a theory in law and as before stated oftentimes but poorly represents the true issue in fact. Wm. S. Forrest, a member of the Chicago bar, in the *Journal of the American Medical Association* of June 16, 1894,

says: "Within the past year a physician who was called to answer a hypothetical question as to the nature and effects of certain wounds was cross-examined for several hours on psychology, neurology, chemistry, anatomy, physiology and histology. Objection to the latitude of the cross-examination was promptly overruled. If such an examination is permissible then any industrious lawyer who has been instructed by a learned coach can make the average medical expert in any case appear ridiculous. If such a method of interrogation is admissible then no medical expert can pass creditably through the ordeal of cross examination in any trial unless he is prepared to answer questions not only on the subject on which he offers himself as an expert and which is fairly involved in it, but also on the whole science of medicine with all of its ramifications."

Here we have the extreme conditions in medical ex pert testimony in which a spirit of injustice is suggested, maintained, and accomplished. Adversity of opinion in medicine under many conditions proves that our art is not composed of fixed facts but oftentimes only what individual opinion makes them neither our belief or disbelief alter the true nature of the subject; here is where legal acumen and logic count. Logic in law or medicine is not always truth, there is even logic in lies; as Holmes says "Logic is logic, that's all I say." We believe with Erskine, "A fixed rule may give rise to an occasional deviation from justice, but these amount to nothing more than the price which every member of the community may be called upon to pay for the advantage of an enlightened code."

That hypothetical cases possessing many of the faults herein stated cannot always be interpreted according to the real condition as it exists, it would naturally follow that in order to reach a correct conclusion the expert should so far as possible be in possession of all the facts, and have a personal—an actual knowledge—of material facts. If such were done just conclusions could be arrived at with some degree of correctness, but of necessity law cannot be fitted for narrow confines, its breadth is naturally demanded by the multiplicity of conditions to be met; it can be safely asserted that the laws controlling expert testimony are the result of the best legal effort and are purely formed for the purpose of meeting the best and truest element of justice in the most comprehensive manner. The present position of the medical expert is largely due to his own fault; out side of the positive knowledge he should possess he certainly ought to have the acumen to appreciate his surroundings. First of all honesty should mark every step he takes; he presumes wrongfully when he imagines that he can maintain successfully a doubtful proposition, and the least show of partisanship or prejudice upon his part robs him of the essential part of his virtue as an expert; ignorance is honest and generally shows itself, and even while dishonesty may be adroitness itself it is most frequently fatal to the best element of expert testimony. The deportment of the expert while on the stand is most frequently a determining factor of his value as an expert. When he is viewed as a partisan by judge, lawyer and jurymen it can be safely asserted that his actions if not his words have conveyed this impression; honest, unreserved and unpretentious assertions are rarely interpreted wrongfully. After years of experience I am free to confess that when failures in justice have occurred that plain and palpable causes can always be shown, at times depending of course upon imperfect expert testimony, upon imperfect knowledge of trial, judge and attorney. While it may be admitted as true that medicine as it exists to day possesses many elements of certainty and fact, still much that is empirical still clings to it. That owing to its breadth and scope special branches have been created and that now special training is a necessity, yet no one will have the hardihood to assert that all the branches of medicine as now existing is composed of fixed fact. Just so long as contrary opinions can be justly maintained just so long will their proper interpretation be sometimes met with failure. I have heard upon more than one occasion a confrere testify as an expert producing even upon myself the impression of conscious superiority of surroundings, a studied adroitness and a pompous assertiveness. If this produced the impression upon another confrere it certainly could not fail to produce the impression upon court, jury, particularly when giving his evidence as though he was asserting absolute fact then upon cross-examination compelled to modify opinion, what impression must this produce upon those not thoroughly versed in medicine. Why plainly and truly our confrere was honest yet his positiveness created a wrong impression, created the idea that he was asserting an established fact which upon examination was shown not to be the case, for there really are not many points in medicine which are absolute in fact. Again how many physicians called upon by court or who volunteer their services as experts do truthfully determine their fitness to act as experts; their vanity spurs them on to positions which they are not really fitted to qualify, and which common sense would demand that owing to proper lack of knowledge they should not accept. We have seen physicians testify upon neurological subjects without the least element of previous training, whose breadth and scope of knowledge simply hinged upon some ancient book of general practice; this notably is the case in courts away from prominent centers.

Yet this poorly prepared expert has probably been the physician of the trial judge, attorneys in the case and many of the jury men, and has successfully lead them to health time and time again; under these conditions the well-posted or city expert as called may be pitted against this illy-posted expert and find that advanced and modern ideas cannot always down good will and success in medical treatment. It has occurred to the writer upon more than one occasion that had the medical expert in cause shown as much evidence of diligence and study as the cross-examiner the result would have been different, for as indicated in the process of examination but little knowledge and study had been

indulged in. Again the medical expert but poorly interprets his surroundings when he indulges excessively in technicalities; there is insidiously but surely produced the impression that vanity is the motive and not science or skill, while an endeavor when shown to avoid technicalities and plain simple terms used they produce their impression upon entire court. Admitted the familiarity upon the part of the medical expert in the use of technicalities becomes almost second nature, yet when he even from courtesy or common sense endeavors to explain in simple terms his honest opinion they are accordingly understood and appreciated. But an abundant flow of technicalities is labor to anyone to comprehend out of the realm of medicine, and when too freely indulged in invariably arouses the idea that the expert is desirous of showing his familiarity with terms which are not well understood. We once heard a confrere avow that he was not afraid of any lawyer no matter how sharp he might be as a cross-examiner, for, to use his own expression, his "volcanic utterance" would suggest many answers for any question that when asked a question his rapid flow of language containing many points would be given, and of necessity demanded notice and contradiction. Our volcanic confrere seemed to think that only his vanity as an expert had to be considered; he utterly failed to realize the impression which he produced upon his surroundings; while a talented man and splendidly versed in medicine he finally gained the well-earned reputation of being tricky and dishonest. Vanity and the lack of good common sense not infrequently possesses the medical expert; when such is the fact it is made apparent to all concerned. I have seen as rapid and perfect reading of character by the attorneys in cause of such experts as could be possibly accomplished by human mind, they were to this conceited expert "like unto golden hooks that from the foolish fish their bates do hide." As the Bible says, "Seest thou a man wise in his own conceit! There is more hope of a fool than of him." If our expert's conceit has already made him well pleased with self common sense would indicate rest and contentment, but vanity never stops here; it desires more; there are worlds yet to conquer, hence he, the expert, desires to make man esteem him as he esteems himself, and for this reason, as Eliott says, "Vanity is the quicksand of reason." And Shaw exclaims "Vanity is a strange passion, rather than to be out of a job it will brag of its vices." Common sense would naturally indicate that a medical expert should avoid uncertainties and never maintain conclusions of which he is not morally certain is the truth, for this procedure will certainly lead to failure, but once being sure in the premises he should always be positive, firm and determined in his opinion. When a medical expert does not know the truth of any given point it is strength of character to always frankly and honestly admit it. In my experience I have known medical experts whose vanity made them assume a knowledge which they never possessed, and such mistakes almost invariably accomplish what they justly deserve, exposure and contumely. No expert should ever hesitate nor by any process of logic or reason to frankly state their ignorance when such exists, for any man attempts an impossible task to successfully maintain a lie. Many medical experts permit themselves to be led off from the subject but when this is done they have ceased to be experts upon the subject under issue, but gone into a new and illegitimate field of expertism; their duty only demands a consideration of subject matter under trial and they should refuse to answer anything foreign to it. There can be no doubt that much of the loss of respect which the medical expert has gained has arisen as much from ignorance of medicine and particularly of medico-legal subject as from any source. It may be a broad assertion but I candidly believe that there is not one physician in fifty who has even an ordinary knowledge of medico-legal subjects. How can it be expected when it is most frequently the case than the reverse. That the medical expert does not even know his own legal status, ignorant of the general rules which govern medical expert testimony, ignorant as to the scope and extent of examination to which he is to be subjected, ignorant as to the amount of skill and experience required of him, even ignorant as to his rights.

Becker, in speaking on practical suggestions and admonitions embodied in rules—of expert testimony—says: "He, the expert, should always bear in mind that at the close of his testimony an opportunity is usually given to him to explain anything which he may be conscious of having said which requires explanation and partial statements which need a qualification to make them a truth. This is the physician's opportunity to set himself right with the court and with the jury. If the course of the examination has been unsatisfactory to him he can then by a brief and plain statement of the general points which he has intended to convey by his testimony sweep away all the confusion and uncertainty arising from the long examination and cross-examination and can often succeed in producing the impression which he desires to produce and can present the scientific aspects of the case briefly and correctly." This is quoted for the reason and for the purpose of indicating that so simple and just a rule is rarely thought of by the bulk of experts; from an attendance upon court for many years the impression produced upon the writer is that the opportunity for correcting testimony is not always accepted but an alacrity in descending from the witness stand is very frequently observable. Forrest certainly indicates much that is true when he says: "Although medical expertism is not what it ought to be, it is by no means what it is represented to be. Yet it must be conceded that it has fallen from its former estate in popular opinion. The prevailing notion as to its character is due in my judgment to impertinent and improper cross-examination, to improper rulings by the trial judges, as to the competency of certain questions and as to the scope of the cross-examination, and to the imperfect, if not incorrect, reports of medi-

cal testimony in the daily newspapers as well to the shortcomings of the experts themselves." Ignorance is then the bane not only of the medical expert generally, but of court as well, yet with the faults that may be found with it the direction is ever in the line of justice. As has been asked many times what is the remedy, Draper in the *Annual of the Universal Medical Sciences* says: "Gray considers that some method of improving the present relations of the medical witness is greatly to be desired; at present he stands in a false position. Judge, lawyers and jurymen regard him as a partisan. That often his personal address his coolness and his adroitness rather than any exposition of facts of science offered by him are all that impress the jury untrained in the consideration of weighty problems and unacquainted with medical knowledge only through the garbled gleanings of a sensational press. Questions of law are discussed only with those qualified to discuss them. They are brought not to the jury but to the judge. If not answered to the lawyers' satisfaction he may appeal to still higher judicial hearers. Not so with the questions which the medical expert is obliged to discuss in court. The history of our courts records many failures of justice in determining medical questions under the present system. Men have been hanged as sane when experts have testified to their insanity, and post-mortem examinations have proven the correctness of their testimony. Property has been unjustly conveyed under similar perversions of truth. Gray suggests two methods of rectifying this defect, first, the selection of medical men by the presiding judge to sit on the bench with him in an advisory capacity in trials which do not need juries; second, a conference of all the medical men in cases tried by jury. Such is the plan not without precedence which has given general satisfaction. In English admiralty courts the retired naval officers are selected by the judge to advise him. These officers are called accessors and sit with the judge on the bench. Indeed in jury trials in England it has for some time been the custom to have conference of medical experts. Sir James Fitzjames Stephen says: "For many years this course has been pursued by all the most eminent physicians and surgeons in Leeds and the result is that in trials at Leeds—where actions for injuries and railway accidents are very common—the medical witnesses are hardly ever cross examined at all and it is by no means uncommon for them to be called on one side only. Such a practice of course implies a high standard of honor and professional knowledge on the part of the witnesses employed to give evidence, but this is a matter for medical men. If they steadily refuse to act as counsel and insist upon knowing what is said on both sides before they testify, they need not fear cross-examination." Such conferences of medical men were suggested four years ago by the Hon. Williard Bartlett and have been carried out successfully in a number of cases tried before him. There is a popular feeling that medicine is an uncertain science. In point of fact there should be no essential disagreement among educated physicians. Differences of opinion may exist but even then the reasonable certainty aimed at in law can be reached by a conference of qualified physicians. Medicine has to a great extent emerged from the period of empericism into one of approximate certainty. This fact has not yet been grasped either by the laity or the legal profession who are slow to comprehend the great scope of modern medicine and the lengthy and special training required for the mastery of any one of its departments." This is certainly a consummation devoutly to be wished and probably would suit all prominent educational centers but there would be much difficulty, much expense which cannot be borne, to adapt it in a country like ours. The writer has for years been connected with medical colleges in the West and knows from positive experience that in the great bulk of medical colleges the chair of medical jurisprudence as taught is one of the veriest of farces, oftentimes advertising as having such a chair but never delivering a lecture from it. Now and then a few lectures delivered but never insisting upon an examination. Until this chair is properly filled in all medical colleges and each and every matriculant compelled to take a regular and systematic course palpable ignorance will be manifest in medico-legal questions and pass discredit upon the medical expert in general and particular. Certainly the laws governing expert medical testimony are embodied in the broadest, most just and discriminating manner, and for a country like ours presenting so extensive and diversified a populace, narrowed conditions cannot be made to adapt themselves properly and justly. Again these laws readily and admirably adapt themselves to the robust vigor of a prosperous, growing and comparatively new country and certainly are educational in character. There appears to me to be greater indications of healthful vigor in the wide range of selection and multiplicity of experts than if narrowed to class. Medicine is not an exact science, while as previously indicated it has been wonderfully improved, still truth indicates that wide differences are constantly and certainly manifest. What might suit one State would poorly adapt itself to another. Medical education in this country with its lax requirements in many States certainly is at fault for the inferiority of knowledge possessed by many physicians. When men can become self constituted physicians when merely a limitation of time as a resident of a State qualifies the physician, when imperfect and unfit boards pass upon men, certain it is that the standard of medical education cannot be what is desired. Many States have raised the standard of the legalized practitioner and as such are reaping the benefits thereof. George Eliot certainly expresses the general feeling of apprehension on the part of mankind when she says: "Ignorance is not so damnable as humbug, but when it prescribes pills it may happen to do more harm."

There is sense in the suggestion of A. Moore Berry, a member of the St. Louis bar, who, after reviewing the lack of educationin medico-legal subjects not only as regards the medical expert

but likewise as regards the law side of the question says: "An experience of nearly twenty-five years in court leads me to the conclusion that such experts are often, if not always, selected, not because they are specially well qualified or most competent to form a correct judgment but because their opinions are known to be favorable to the cause of the litigant. That plan which leads one who presumably and technically has been called to testify because of his expert knowledge to become more or less a partisan whether consciously or unconsciously so is surely not the best method for the selection of experts. The purpose of the law and of the courts in the trial of causes is the ascertainment of the truth of the matter in controversy and if there is a method more apt than the one in vogue to obtain this result it should be adopted. It is entirely practicable for the courts to make the selection of an expert where expert testimony is required. Litigants always know whether expert testimony will be needed. The court in which the cause is pending should be informed when experts will be required, a reasonable length of time before the cause is to be called for hearing. If the judge has no personal knowledge as to who is specially well qualified or most competent to form a correct judgment in a given case he may summon those who from the nature of the matter in controversy have a special knowledge and experience which will enable him from their evidence to select the most expert for the work in hand, make the appointment and cause the appointee to acquire a personal knowledge of the facts which will enable him with the assistance of other facts and evidence if there be any to give an accurate opinion. Such an opinion would be more valuable than one given under the present conditions, because it would be based presumably upon a wider knowledge and would be unbiased. By the use of the word unbiased in this connection is meant only that the witness would not consciously or unconsciously be influenced by the feeling that he appeared in court for or against either party to the cause. The public and the jury would give more weight to the testimony of one so appointed because of the great confidence in his ability and disinterestedness." Forrest in summing his views upon the subject of medical expertism uses to my conception strong, wholesome and good common sense. He says, "The only adequate remedy for the evils of medical expertism in so far as a remedy is required must come from the co-operation of the legislature, the judiciary, the bar, the medical profession and the editors of our great daily newspapers. First, then, I suggest that the legislature enact that a medical expert witness is one who has actual knowledge of the subject on which he is called to testify derived from clinical experience. No physician, for example, should be accounted a medical expert in cases where insanity is the issue unless he has actually treated the insane. Under the law at present any physician can qualify as an expert in any civil or criminal case if he is in practice and acquainted in a general way with the literature of the subject involved in issue. The judges should restrict the hypothetical question to the facts in evidence except in so far as such questions are permitted in order to test the competency of the expert. The cross-examination should be confined to what is germane to the phase of medical science involved in the case on trial. When such law is enacted and the judges enforce it and the rules of evidence as they now exist the lawyers will be constrained to do their duty on trial and thus they will contribute their part to the restoration of public confidence in medical testimony. The medical colleges may raise the standard of medical expertism by devoting more time to medical jurisprudence and by increasing the time for graduation." The writer has an abiding faith in the common sense—that sense which education cannot give, but is bestowed by heredity—of the followers of both law and medicine; when medical expertism becomes intolerable it will be corrected; evils are not like perfections for they are always incentives to progress. Lowell says: "Evil springs up and flowers, and bears no seed, and feeds the green earth with its swift decay, leaving it richer for the growth of truth."

The Cutaneous Application of Certain Alkaloids as Regulators of Thermogenesis.—MM. Guinard and Geley have found that of eighteen alkaloids applied in solution or as an ointment to the inside of the thigh of man or of one of the lower animals, four of them, viz., cocaine, solanine, sparteine and helleborine, have constantly the effect of regulating heat production. This regulating effect is entirely due to the action of the drug on the peripheral nerves, and is entirely independent of absorption through the skin. That this is so is proved by the absence of any such effect by the introduction of the same drug into the system. No trace of the alkaloid was, moreover, discovered in the urine in the above experiments. Again, drugs commonly administered as antipyretics—quinine, antipyrin, phenacetin, sodium salicylate, aconitine, etc.—are ineffectual when rubbed into the skin. The experiments do not show any superiority of the alkaloids over guaiacol.—*Medical Record.*

Pasteurized Milk.—Pediatric authorities advise that all milk fed to children should be pasteurized in warm weather—that is, raised to a temperature of 168° F., to destroy ferments and prevent souring. This temperature kills tubercle bacilli, typhoid and other germs that may be present in the fluid. It is true that it also renders the casein of the milk less easily digestible, destroys milk-sugar, and causes proteid matter to adhere to fat globules, thus retarding their digestion; but these results are of little importance clinically, except in the care of weak children, while the benefits are many and obvious.—*Jour. of the Amer. Med. Ass'n.*

EDITORIALS

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Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Temperature and Typhoid Fever.

Vegetable life as a rule exhibits the greatest activity and abundance in warm weather, and it was generally supposed that also in water bacteria grow more abundantly in warm than in cold weather until bacteriological research has shown that the reverse is true. Dr. Cyrus Edson, Commissioner of Health for City and State of New York, has lately drawn attention to this fact and he attributes the great prevalence of typhoid fever in cold weather to this fact, many of the great epidemics having been caused by infection occurring during the winter months. Of these Edson quotes among other instances the great epidemic at Plymouth, Penn., that broke out a few years ago, in which the infective material was deposited upon the snow on the banks of a small stream, where it had been subjected to a temperature of about twenty degrees below zero for a number of days. Upon thawing it was washed into the Plymouth water supply and from twenty to twenty-five days later a large number of persons were taken sick with typhoid fever. Edson offers a very plausible explanation for the greater provalence of this disease during the winter months, namely, that the oxidizing processes are more intense when the water is warm and micro-organisms are thereby more rapidly destroyed. Another hypothesis is offered by the health commissioner. "In contaminated water," Mr. Edson says, "the micro-organisms of preventative decomposition of organic matter are most active when the water is warm and these germs or their products are probably inimical to the bacillus typhosus." This explanation, however, does not appear logical in the face of the fact that the number of bacteria in general decreases when the water is warm, and exact bacteriological research with regard to this question will be necessary to support the latter hypothesis of the health commissioner.

Variable Forms of Bacteria.

Though like produces like, the simpler forms of life take their own time and require suitable conditions to reappear in any one of a cycle of protean forms. Some instances of the ability of microbes to make use of their opportunities are given in a review of the morphology of bacteria by Dr. E. Klein in the *Quarterly Journal of Microscopical Science* (N. Y. *Med. Jour.*). He states that bacteriologists now recognize that the shape under which a particular bacterial species presents itself depends both on the medium in which it grows and also on certain inherent qualities of the organism itself. The bacilli of human typhoid fever, swine erysipelas, or sewage are always cylindrical cells, but may grow either singly, in pairs, or in shorter or longer chains. The most common organism of putrefaction, the *proteus vulgaris* of Hauser, may assume nearly every form from spheres to spiral threads. *Bacillus prodigiosus* varies from spheres to cylinders. Not only do some species of bacteria appear under unstable shapes, but some which have a definite shape in a certain medium change their shape when growing in a different medium. The group of bacteria comprising the bacillus of the Middleborough pneumonia, of fowl cholera, of fowl enteritis, of *Freuenseuche*, of *Wildseuche*, of swine fever, of grouse disease, the *Bacillus coli*, and others, have many points in common in their culture characteristics in the different media, and there is a close resemblance in the acute septicemic infection which they are capable of producing in rodents, but, while some preserve the same definite shape when grown in one species of animals or one kind of medium, this shape changes in other animals or in other substances. The microbe of diphtheria, of tuberculosis, and of anthrax fever, under very favorable conditions of growth either in gelatin or in the human body, develops not only the typical forms, but also many long threads, sometimes branched and generally with terminal segregations of protoplasm which may be vacuolated, conditions which are also found in the thrush and other mycelial fungi. Dr. Klein is certain that these are forms of active growth and not of involution. He concludes that, as these three microbes vary from the characteristics of desmobacteria, they can not be so well marked typical bacilli as has been assumed. Under

many conditions they have the morphological characters of typical bacilli, but under other conditions they easily revert to or assume forms which show their evident relations to the saccharomyces or other mycelial fungi.

What Samll-Pox Can Do.

At the time of the announcement of vaccination by Jenner small-pox caused more than one-tenth of all the deaths of the human race. Fifty million people died in Europe from small pox during the eighteenth century (*Medical Record*). In the sixteenth century the disease appeared in Mexico, and 3,500,000 of the population yielded up their lives in a few years, leaving some provinces almost depopulated. In 1707 in Iceland 18,000 died in one year, the entire population being but 50,000. Seventy per cent of the people of Greenland died of small-pox in 1734. Small-pox is the most fearful disease with which the human race has ever been scourged. Macaulay tells us it was always present, filling the churchyards with corpses and leaving on those whose lives it spared the hideous traces of its power. "If a modern traveller," says Dr. Hyde, "could be transported to London in the early part of the present century, no peculiarities of architecture, dress, or behavior, would be so conspicuous as the enormous number of pock-marked faces he would encounter at every turn." It spared neither rich nor poor, and even invaded the palace of the king.

The Treatment of Typhoid Fever.

Of all the branches of the medical sciences it is hygiene upon which we have to look as the most promising study and the branch of medicine to which belongs the future; for, notwithstanding the great progress that has been made within the last few decades in the etiology of diseases, the treatment in many instances is not much further advanced than it was several decades ago. We still have to rely more upon scientific nursing than upon the healing powers of drugs and in many instances the patients will do better without any medication whatever excepting, perhaps, when it is used for the psychical effect upon the patient. The rules laid down by Sir William Gull could not be improved upon at the present day. Gull's views with regard to the treatment of typhoid fever were as follows:

1. Typhoid fever is a disease which runs a more or less definite course. It cannot be stopped or cured by medicines.

2. The chief thing to be done at the outset of an attack is to send the patient to bed, so as to save strength from the beginning.

3. No strong purgative medicines are desirable.

4. As the fever develops and the strength grows less, light food should be given at short intervals—*i. e.*, water, toast water, barley-water, milk and water, light broths (not made too strong or too gelatinous).

5. If there be restlessness or much agitation of the nerves, wine (port, sherry or claret) or brandy in moderate doses at short intervals. This must be directed medically, but in general it may be said that the amount required is that which induces repose and sleep.

6. The bowels may be left to themselves. If unmoved for twenty-four or thirty-six hours a lavement of warm water may be necessary, but this will be directed medically.

7. The restlessness or wakefulness in fever is best remedied by the careful giving of wine or spirit with the food, or in hot water. Sedatives such as opium are inadmissible—mostly injurious.

8. The bedroom to be kept at a temperature of 62° to 65° F.

9. Great care is necessary to keep the bed clean and sweet. This is most easily done by having a second bed in the room, to which the patient can be removed for two or three hours daily, while the other is thoroughly aired and the linen changed.

10. All fatigue to be sedulously avoided. No visitors admitted, and no other person but a nurse and one attendant to help her.

11. Patient's room never to be left unattended for a moment, as in the delirium of fever patient may jump from bed and injure himself.

12. As to medicines and the treatment of complications, the immediate medical attendant must be responsible.

13. As it is possible that the discharges from the bowels in typhoid fever may be a source of contagion, it is desirable that before being thrown down the closet they should be largely mixed with Condy's fluid or some other disinfectant. On the same principle the strictest cleanliness must be observed in the sick-room.

14. There is no reason to believe that typhoid fever is contagious from person to person, in the ordinary way. The largest experience shows that it does not extend, like an ordinary contagious disease, to nurses or others attending upon patients suffering under the disease.

M. Pasteur on Rabies.

M. Pasteur addressed the following reply to a lady who recently wrote to him for information respecting the symptoms of rabies (*Medical Record*): "M. Pasteur has had pleasure in receiving your letter May 31. The bite of a dog is only dangerous when the dog has got rabies. If there is any doubt in respect to this, the manner in which it may be found out is the following: Put the dog that has bitten where it can do no further harm. Have it examined by a vet., and if it has the rabies its characteristic symptoms will not be long of being observed, and the animal will certainly die in eight days. If at the end of that time no symptom of rabies has been observed, the bite cannot cause hydrophobia, and there is no reason that the animal should be destroyed."

MEDICAL SOCIETIES

Society of Alumni of Bellevue Hospital.

STATED MEETING, MAY 2, 1894.

The President, DR. FREDERICK HOLME WIGGIN, in the Chair.

We are indebted to the New York *Medical Journal* for this report.

FRACTURE OF THE PATELLA.

DR. CHARLES PHELPS presented a case of fracture of the patella which he had wired about a year ago. There was now nearly perfect motion of the joint, and apparently solid osseous union. He said that he had usually begun to make lateral motion at the end of two weeks, and flexion at the end of about four weeks.

DR. JOHN W. S. GOULEY said that he had seen many of Dr. Phelps' cases of fractured patellæ, and that he had been particularly interested in the degree of flexion he had obtained within a few weeks' time. He had feared that fracture would result, and although he had never known of its occurring in any of these cases, he had felt that Dr. Phelps had been in too much haste to obtain flexion. The case which had just been presented showed what a wonderfully good result could be obtained after a year. It was worth waiting this time to secure such a result.

DR. PHELPS said that in two of his cases fracture had occurred under the treaatment, and in them the accident had been due to the fact that he had not taken sufficient care to obtain enough lateral motion before attempting to get flexion. In these cases one patient had got osseous union without having been wired again, for it had only been necessary to put up the limb for about two weeks and then resume passive motion. In neither of these cases had the patient known that fracture had occured. He did not regard it as a very serious complication.

DR. STEPHEN SMITH said that he had had an opportunity of seeing a number of these cases in the St. Louis Hospital, Paris. The surgeon there had employed a peculiar incision, somewhat like that used in cases of excision of the knee, and his practice had been to let his patient get up and walk at the end of two weeks, and after six weeks to return to work. He had had no bad results in more than fifty cases, except in one instance in which refracture had occurred. He had wired in all the cases, and apparently with the most excellent result. The speaker said that he had also seen in the same surgeon's service a case of double rupture of the tendons of the quadriceps in which an excellent result had been obtained in four weeks after wiring. These facts would seem to indicate that we usually waited too long before allowing the limb to be used.

DR. PHELPS said that he was glad to know that the operation was growing in favor. When he had begun to use it, it had been regarded as almost criminal.

IMPACTED SUBTROCHANTERIC FRACTURE OF THE RIGHT FEMUR.

DR. J. W. S. GOULEY presented the upper end of the right thigh bone of a man, 46 years of age, who during a prolonged debauch, and while under alcoholic intoxication, had fallen down the steps to the cellar on April 18, 1894. A few hours after the accident he had been taken to St. Vincent's Hospital, and had been examined by the house surgeon, who had noticed that "the great toe of the right foot pointed toward the ball of the left great toe," that there was much tumefaction below the hip, that the injured limb was shortened about an inch and a half, and that this limb was rotated inward and adducted. This faulty position of the leg and foot, and the shortening, together with the absence of crepitus, had led the house surgeon and four other members of the house staff to believe that the men had suffered a post-iliac luxation of the thigh bone. The patient had been examined by the speaker on the day after his admission, and also by Dr. Wiggin, Dr. Syms and Dr. Gibbons, all of whom had agreed that there had been a fracture. The question of the particular site of the fracture had then been examined. He had thought that the case might with propriety be called an impacted subtrochanteric fracture, and had based his diagnosis upon the character of the deformity, the position of the limb, the degree of shortening, and the absence of crepitus. The upper fragment had been drawn upward and forward by the psoas and iliacus muscles, and outward by the glutei muscles, and the shaft had been drawn in by the adductor muscle, while the inverted position of the limb had been maintained by the impaction of the shaft's end into the upper fragment. After extension and rotation of the limb had several times been made, the three surgeons named had detected crepitus and eversion of the limb. It had only been after this free rotation and extension that the crepitus had been felt, and that the consequent disimpaction of the fragments had allowed the limb to become everted and to remain in this new faulty position while unsupported. A long external splint with extension, after the method of the late Dr. Buck, had been then applied. In the course of three days after admission the patient had become delirious and almost uncontrollable. On the fourth day his body temperature had risen to 104°, and had continued to rise up to the ninth day, when it had reached 106°. In spite of active treatment for *mania a potu* with meningitis, he had died on the ninth day. The necropsy had revealed well-marked meningeal inflammation, intense pulmonary congestion, and hepatic and renal sclerosis. The injured bone, disarticulated from its socket and sawed off a few inches below the fracture, showed the line of fracture to be about a sixteenth of an inch below the lesser trochanter, to be transverse in half of the circumference of the bone and to extend obliquely down-

ward and inward for an inch and a half, and finally upward and backward to the base of the lesser trochanter, so as to give the upper fragment a wedge-shaped projection, which, in life, had been carried forward and a little outward and upward toward the pelvis. The deformity observed on the patient's admission had been caused by this projection and also by the end of the lower impacted fragment being held in position by the adductors muscles, until disimpaction had been effected by extension. Disimpaction has been justifiable in this case on account of the extent of the deformity, but ordinarily when the deformity was not great in cases of suspected impacted fractures, it was not wise to attempt to obtain crepitus. It was proper to add that, in view of the inordinate rise of body temperature to 106° in this case, pus had been looked for throughout a careful necropsy, but none had been found. The only evidence of inflammatory action in the injured parts had been great redness of the medulla of the upper as well as of the lower fragment of bone. The hip joint had been found intact and there had been a marked depression in the cancellated structure of the upper fragment in which the point of bone from the lower fragment had been lodged. In the fresh state the marrow of the bone had been intensely red, so that it was barely possible that the high temperature might have been accounted for by the supervention of myelitis. It had been strictly a subtrochanteric fracture. Sir Astley Cooper had described a case of extreme deformity and obliquity. The fracture had begun above the trochanter minor and had extended two or three inches down the shaft.

Dr. Parker Syms said that he had been much interested in the case, and especially in the confirmation of the diagnosis. At the time he had examined the patient the impaction must have been broken up, for while there had been no distinct crepitus there had been a distinct slipping of the fragments past each other, with an obscure crepitus. When the limb was rotated, the deformity at the anterior aspect of the thigh was so great that he had expected the autopsy to show a large effusion of blood.

Dr. Gouley said there had been no more effusion of blood found at the autopsy than in an ordinary case of fracture.

Dr. Smith said that the name given to this fracture was new to him, but it certainly described very accurately the condition present.

The American Association of Obstetricians and Gynecologists

Will hold its seventh annual meeting at Toronto, Ont., Wednesday, Thursday and Friday, September 19, 20 and 21, 1894, to which a cordial invitation is extended to the medical profession. The following is the preliminary program, subject to amendment until September 1, namely:

1. President's address, Gearge H. Rohe, Catonsville, Md.

2. Personal Experience with Pus Tubes: When to Operate, How to Operate and the Results of Operation, Jas. F. W. Ross, Toronto, Ont.

3. Relation of Hysteria to Structural Changes in the Uterus and Adnexa, A. P. Clarke, Cambridge, Mass.

4. Demonstration of a Mechanism of Intussusception (rabbits), Robert T. Morris, New York.

5. Nephrectomy, L. H. Dunning, Indianapolis.

6. Treatment of Distension of the Fallopian Tubes Without Laparotomy and Removal, Frank A. Glasgow, St. Louis.

7. Hysteria in Pregnancy, W. P. Manton, Detroit.

8. Relations of Renal Insufficiency to Operations, Carlton C. Frederick, Buffalo.

9. (*a*) Importance of Recognizing Septic Puerperal Endometritis Early and Its Treatment. (*b*) Demonstration of a Portable Operation Table for Gynecological and Abdominal (Trendelenberg) Work, Edward J. Ill, Newark, N. J.

10. Suspension of Rectroflexed Uterus by the Utero-Ovarian Ligaments, with Report of Cases, Reuben Peterson, Grand Rapids, Mich.

11. The Element of Habit in Gynecic Disease, Geo. F. Hulbert, St. Louis.

12. Some Results of Ether Anesthesia in Abdominal Operations, I. S. Stone, Washington, D. C.

13. Report in Abdominal Surgery, Presenting Cases, A. Vander Veer, Albany.

14. Supplementary Paper on Abdominal Section in Intrapelvic Hemorrhage, M. Rosenwasser, Cleveland.

15. Conservative Midwifery, J. M. Duff, Pittsburg.

16. The Cause of the Thirst Following Abdominal Section, Eugene Boise, Grand Rapids, Mich.

17. The Care of Pregnant Women, W. B. Dewees, Salina, Kan.

18. Subject to be announced, L. S. McMurtry, Louisville, Ky.

19. Discussion.—Inflammatory Disease of the Uterus and Appendages and of the Pelvic Peritoneum:

a. Introductory Remarks, William Warren Potter, Buffalo.

b. Historical Sketch, Edwark J. Ill, Newark, N. J.

c. Clinical History, Charles A. L. Reed, Cincinnati, O.

d. Causation and Pathology, Lewis S. McMurtry, Louisville, Ky.

e. Diagnosis and Prognosis, Jawes F. W. Ross, Toronto, Ont.

f. Treatment, M. Rosenwasser, Cleveland, O.; A Vander Veer, Albany, N. Y.; J. H. Carstens, Detroit, Mich.; A. H. Cordier, Kansas City, Mo.

g. Results.—(*a*) When Treated; (*b*) Uuder Various Methods of Treatment, Joseph Price, Philadelphia, Pa.

20. Intercurrent Typhoid Fever in Pregnancy, Thomas E. McArdle, Washington, D. C.

21. Notes on a Case of Cholelithiasis, Frederick Blume, Allegheny, Pa.

22. Perineal Operations, Joseph Price, Philadelphia.

23 Remarks Bearing on the Surgical Treatment of

Intussusception in Infants, Based on Two Successful Cases, Henry Howitt, Guelph, Ont.

24 The Limitations of Surgery in the Treatment of the Uterus and Its Appendages, William H. Myers, Fort Wayne, Ind.

25. The Incision in Abdominal Surgery—Methods and Results, J H. Carstens, Detroit, Mich.

26. Abdominal Section in Ectopic Gestation, where the Fetus is Living and Viable, X. O. Werder, Pittsburg, Pa.

27. Subject to be announced, William E. B. Davis, Birmingham, Ala.

28. Hysterectomy for Cancer of the Uterus, E. W. Cushing, Boston, Mass.

ABSTRACTS

MEDICINE.

Our Present Knowledge of the Cure of Malaria by Means of Quinine.—In this contribution to the quinine-treatment of malaria, by Prof. Binz, it is stated that just twenty-six years ago he opposed in the pages of the *Centralblatt* the then generally accepted theory that the curative action of quinine in malaria is developed through the nervous system, and propounded the theory that quinine, in all probability, acts as a protoplasm poison on the pathogenic micro-organism, at that time undiscovered, which is at the root of all paludism. It has now been discovered that all forms of malarial fever are brought about by organisms of the genus ameba, which penetrate the bodies of the red blood-cells at whose expense they increase in size, finally sporulating and destroying their host. Laveran, who first discovered and described the parasite of tertian ague, also investigated the action of quinine on that organism, and found that when microscopical preparations of the parasite were treated with quinine, the vitality of the disease-germ was speedily destroyed; a fact which has been substantiated by Machiafava, Celli, Grassi and Feletti. The influence of quinine on the malaria parasites has also been studied by examining the blood of malaria patients before and after the exhibition of the drug. In this instance the investigations of Laveran, Romanoffsky, Baccelli, Golgi, Machiafava and Bignani established the fact that the parasites were killed by the quinine absorbed into the blood.

Dr. Mannaberg, who has recently investigated this question in the malarial districts of Dalmatia, Istria, etc., finds, among other things, that about three hours after the exhibition of from seven to fifteen grains of quinine the ameboid movements of the ameboid form of the parasite of tertian ague slacken to a very perceptible degree, and that after a lapse of a further period of three to six hours, the number of parasites in the blood of the patient greatly diminishes, whilst many of those still left are torn and mutilated. On the full grown parasite of tertian, quinine either produces a complete cessation of all movement in the pigment whereby the parasite acquires a glittering, cloddy appearance as though coagulation had set in or else dropsical swelling is set up, or, finally, the parasite fall to pieces. Shortly after the exhibition of quinine, medium sized parasites of tertian ague develop intense activity. It appears that quinine possesses a stimulating action before causing coagulation and immobility. This phenomenon has also been observed by Baccelli. According to Golgi, the medium-sized parasites of quartan fever acquire a glittering appearance and tendency to shrivel when the patient receives quinine internally; the large forms, however, become distended, then pigment exhibits lively oscillatory movements and they frequently contain vacuolæ or abortive spores.

About three hours after the exhibition of a dose of 7½ grs. of quinine, the nucleoli of some of the amebæ of the milder forms of true quartan had either partially or entirely lost their tinctorial characteristics. After twelve hours of the treatment stainable nucleoli were hardly met with at all, most of the parasites having broken up into irregular fragments.

From these and other experiments it is evident that the ameba of malaria is not only visibly enfeebled by the presence of quinine in the blood, but that its capacity for producing viable spores is greatly diminished.

In these forms of malaria which are not curable by qvinine that drug has no effect whatever on the parasites present in the blood. Baccelli, however, has found that many such severe forms which defy the ordinary method of treatment may be speedily cured by injecting the usual dose of quinine into a vein.

In spite of certain differences on minor points, Mannaberg and the other investigators one and all agree that quinine is a direct poison for the malaria parasite, and that the therapeutic doses employed are non-injurious to the cells of the human organism. Any assistance from the nervous system in the process of cure is neither evident nor necessary.

With regard to the prophylactic action of quinine, it is to be noted that the drug disappears very gradually from the blood and in an almost unaltered condition. By this means any young amebæ and spores are kept in constant contact with the drug and are thereby checked in their further development. As to the part played by the leucocytes it appears that phagocytism is prominent in cases of spontaneous cure of malaria, but not when quinine is employed.—*Provincial Medical Journal.*

Acute Ascending Paralysis.—Jolly (*Berl. klin. Woch.; Brit. Med. Jour.*) gives the case of a restaurant keeper, aged 41, who, in September, 1893, suddenly developed a paresis of the lower extremities. This soon passed on to complete paralysis; the hands

and arms became similarly affected, and some difficulty in speech and respiration followed ,together with a similar difficulty in the movements of the face and eyes; the pulse became increased in frequency. The trouble in respiration was due in part to acute bronchitis, but in part to paresis of the diaphragm. Turning the head became difficult owing to weakness of the musculature of the neck. As regards the eyes, bilateral paralysis of the external recti was noticed; the left pupil was larger than the right; both pupils reacted badly to light, and there was paralysis of accommodation; the ophthalmoscope showed well marked double optic neuritis. In the hand sand feet there was hyperesthesia to pain, but ordinary tactile sensation and the perception of heat and cold were much blunted. In some of the affected muscles a modified reaction of degeneration was made out. The bladder was not affected. The patellar reflex was abolished. The patient soon began gradually to improve; power in the limbs increased, respiration became free and expectoration easy. The pulse frequently fell to the average, and the movements of the head could be made with more power; the temperature, which had been raised at first, become normal, and the dreams which had at first disturbed the patient became less frequent. The patient was a great beer drinker, and Jolly regards the case as one of acute alcoholic polyneuritis possibly likewise assisted by excessive tobacco smoking; he hopes that in some months the patient will have quite recovered. The extent of the cerebral nerve affection was somewhat unusually great. Optic neuritis has already been described in cases of polyneuritis by Eichhorst, Strumpell, etc. Jolly does not agree with Ross, who tried to establish the identity of Landry's paralysis with the acute idiopathic variety of peripheral neuritis. Jolly says that some cases of acute ascending (or decending) paralysis are, contrary to what was observed in the present case, not associated with any change in the faradic reactions, even after the paralysis has lasted for weeks, and that such cases can therefore not be ascribed to neuritis. In such cases—which are often fatal—there must be some harmful influence, usually of toxic or infectious nature, acting on the motor part of the nervous system as far up as the medulla oblongata. Whether in such cases life can be preserved for a considerable time without any anatomical, even histological, changes taking place in the nervous system must be left for further investigation to settle. Jolly calls attention to the occasional association of other nervous lesions with those proper to alcoholic polyneuritis, and concludes that the clinical forms of acute ascending (or descending) paralysis (1) belong usually to the class of polyneuritis, but (2) may be caused by acute diseases of the cord or metencephalon or by combination of these diseases, and (3) sometimes probably the cause of the disease may act without producing any lesions that can be made out with the microscope.

Chronic Rheumatism.—Sacharjin (*Deut. Med. Woch.; Brit. Med. Jour.*) first relates a case usually looked upon as chronic rheumatism. He then remarks that the term "rheumatism" has not yet been exactly defined. Acute rheumatism is a well enough marked disease just like other infective processes, but the term "rheumatism" as applied above should not be retained. This disease differs in many respects from acute rheumatism. The involvement of many joints and the shifting character of the articular affection, the fever, and many of the complications are present. The salicylates have little effect upon it. A few cases follow upon acute rheumatism, but then obvious relapses occur. In the other cases of chronic polyarthritis there is the anatomical and etiological diagnosis. The joints are mostly involved, but at times other tissues—thus, periostitis, myostitis, neuritis may occur. As to etiology acute rheumatism, the gonorrheal poison (polyarthritis gonorrhoica), syphilis, tuberculosis, gout, cold, slight traumatism, abuse of alcohol are among the many causes. It is mostly due to a combination of causes. In some case, there appears to be a predisposition to gout and yet there are no characteristic features of it. The uncovered joints are mostly affected or those but slightly protected, such as the knees and ankles. The soft tissues about the joints are often involved. The prognosis depends on the possibility of removing the causes. In treatment the alkaline waters are recommended, especially when there is any predisposition to gout. Warm (and when not contraindicated hot) saline baths are extremely useful. Salicylates only relieve the pain. Compresses of carbolic acid (2 to 4 per cent.) are recommended, as well as subcutaneous injections of carbolic acid. If the muscles are affected massage is recommended; if the joints, blistering, massage, electricity and compresses of carbolic acid, and if the periosteum, iodides in alkaline waters. Rest, blisters, etc., and later massage of the neighboring parts are advised when the nerves are involved; electricity is uncertain. Saline baths are useful in all these conditions.

Rheumatic Angina.—Roos (*Berl. klin. Woch.; Brit. Med. Jour.*) first relates cases showing the relation between rheumatism and this angina. In English writings this relation is generally recognized. Rheumatic angina may be a prodromal symptom of acute rheumatism. This latter disease is in all probability an infective process, and the author thinks that the actual cause of the disease may gain access through the faucial mucous membrane. Rheumatic angina is, however, said not to be very common. Pain on swallowing, swelling and redness of the fauces, especially of one or both tonsils, with or without suppuration, the occasional presence of a purulent deposit on the tonsils, and the relatively long duration of the affection are to be noted. Former rheumatism will assist in the diagnosis. This rheumatic angina will probably explain the presence of valvular lesions in some cases in which there is no history of rheumatism. Correct diagnosis is important, as the salicylates rapidly cut short the disease, and perhaps prevent the articular affection. Rheumatic angina can-

not at present be distinguished from other forms of angina. Articular rheumatism may appear after the follicular form. It is possible that after certain anginas the infection may involve the joints (polyarthritis anginosa). This polyarthritis after angina sometimes differs from rheumatism by reacting badly to the salicylates, and by its long duration. In this it resembles the polyarthritis seen after scarlet fever and diphtheria. The author thinks that a number of these cases of polyarthritis after angina will resolve themselves into examples of infective processes when the etiology is better known. He refers to cases in which etiologically the disease should be looked upon as pyemic, and yet no suppuration occurs in the affected joints. Here the micro-organisms may have lost their virulence (modified pyemia). It appears strange that after suppuration in a tonsil a simple poly-arthritis should occur. The author then refers to the researches of Sahli in respect to the causation of rheumatism by the staphylococcus. He concludes that either the angina preceding the polyarthritis is rheumatic, or that after certain forms of angina a pseudo rheumatic affection may occur, with localization in the joints or serous membranes. There is much to favor this latter view.

SURGERY.

Traumatic Separation of the Epiphyses.—Tubby (*Annals of Surgery; Brit. Med. Jour.*) presents a collection of cases of epiphyseal separation in the lower limb. Among points in differential diagnosis it is noticeable that whereas intra-capsular fracture of the upper end of the femur usually results from slight violence, separation follows great violence. The average age at which separation occurred in these cases was somewhat over fourteen when the head of the femur is nearly all bone. Although this is a lesion within the capsule, yet, unlike fracture, it is incapable of impaction. Diagnosis is very obscure except in two points—namely, (1) the age at which fracture occurs; (2) the fact that under the twentieth year a weak spot exists in the neck at the epiphyseal line. Both in extra-capsular fracture and in diastasis bruising is great and the soft parts are injured. They occur in young life; there is shortening with eversion. But in no instance of separation has there been any mention of fissuring of the great trochanter—a common occurrence in extra-capsular fracture. The crepitus of fracture (if present) is very different from the "dummy" crepitus of diastasis. In fracture of the acetabulum we get a dorsal dislocation of the head of the femur not present in diastasis. The fixity of the limb and the permanency of reduction in dislocation should serve to tell this from diastasis. Separation of the epiphysis of the great trochanter alone is rare, but as a complication of extra-capsular fracture is by no means uncommon. Generally from direct violence there is no shortening of the limb, and in rotating the thigh the trochanter either fails to follow the movements of the limb or describes a normal sac Separation of the lower epiphysis of the femur occurred in a girl only once in twenty-seven cases, and the average age was thirteen and a half. In no fewer than thirteen out of twenty-six cases the cause was a wheel accident, a fact which should lead us to suspect the nature of the injury when occurring in boys of twelve to sixteen. It differs from dislocation of the knee (which is rare under twenty) in that the relations of the condyles, patella, and tuberosities are not altered, and great difficulty is experienced in maintaining the reduction. In supra-condyloid fracture of the femur the lower fragment is drawn back by the gastrocnemius, while the upper projects forward, whereas the reverse frequently obtains in separation.

The Fate of Thiersch Skin Grafts.—Goldmann (*Beitrage zur Klinischen Chirurgie; New York Medical Journal*), says that when a wound has been successfully grafted after the manner of Thiersch, healing occurs without the formation of granulations, and with scarcely any cicatricial contraction. After a few months the new skin is reddish and somewhat glistening, it is on the same level as the surrounding skin, it is more or less movable on its bed, and it frequently possesses both tactile and thermal sensibility. When the changes in the grafts are examined in detail, it is found that in the first instance there is some desquamation of the horny layer, while at the same time there is active proliferation in the middle layers of the epidermis; ultimately the epithelium as a whole is thin, and the papillæ are of small size. An entirely new vascular network is formed beneath the epidermis, which nourishes the latter, and persists for years, which accounts for the redder tinge of the new epidermis and differentiates it from the surrounding skin. The grafted skin reaches the level of the surrounding skin surface more rapidly when the grafts are placed on a vascular bed; in the forehead this level has been attained in four to six weeks. It fails to attain this level when the grafts are placed on a granulating surface, as in the latter case there will be a cicatricial tissue beneath the new skin. After an interval of months the mobility of the grafted skin is so developed that it can be lifted up in folds from the tissues beneath. Return of sensibility occurs sooner at the margins than at the center of the grafted area, and where large gaps have been filled up it may not return at all.

In discussing the anatomical basis of these clinical facts, the writer points out that the mobility of the skin on the subjacent tissues depends upon the network of elastic fibers which connect the former with the latter. By adopting a special stain for the fibers, he was able to prove that these were abundantly formed in the true skin beneath the grafts, and that they were prolonged right up to and into the papillæ, so as to end immediately beneath the epidermis. The presence of these

new elastic fibers, derived from the mother tissue, gives the grafted skin greater resisting power, so that it is able to withstand traction and pressure. Inasmuch as granulating and cicatricial processes hinder or prevent this growth of elastic fibers into the graft, we are able to understand why the results obtained are so much better when the grafts are placed on a recent wound than on one which is granulating. It is also to be noted that the development of the elastic network explains the absence of cicatricial shrinking of the tran-planted skin. The new vessels which are formed from the mother tissue have a great influence in raising the grafted area to the level of the surrounding skin. In this they are assisted by the formation of elastic fibers and of young connective tissue. In a successful case there is no scar tissue to be seen. The return of sensibility to touch, pain and temperature is explained by the formation of new medullated nerve fibers, which are probably also derived from the mother tissue, and which the author has traced into the grafted skin. This method of grafting succeeds at all ages to an equal degree.

Congenital Luxation of the Hip.—Kirmisson (*Revue d' Orthopedie; Brit. Med. Jour.*) states that only in very exceptional cases is there any chance of reducing a congenital luxation of the hip by manipulation alone. The operative treatment of this deformity has not given many very good results, and is certainly not free from risk. Hoffa, who makes a new cavity for the head of the femur, has lost one patient, and of seven cases treated by the author by perforating the pelvic wall at the seat of the old cavity, two were fatal. A cutting operation for the reduction of a congenital luxation of the hip must necessarily be both difficult and severe. In order to place the head of the femur in the required position, prolonged efforts at traction and much manipulation must be practiced, during which some failure in antisepsis is likely to occur. Moreover, the wound is a deep and irregular one, and the head of the femur will block the entrance to its new cavity, and prevent the escape of any septic products that may accumulate there. In two of the surviving patients treated by the author by operation, the results were unsatisfactory, whilst in the remaining three they are regarded as being very encouraging, as there has been in each, after a long interval, no tendency to a return of the luxation, and the shortening of the limb has not been more than half an inch. Operative treatment, it is generally acknowledged, is not applicable to patients beyond the age of ten years and in very young patients, on the other hand, the shortening and deformity are too insignificant to justify the use of the knife. Between these two groups of cases—that of patients with marked deformity who are too old, and that of infants who present but slight deformity—there is another group in which a cutting operation might be considered justifiable. The author is of opinion that such treatment would be indicated in patients between the ages of 4 and 7 years. In patients above the latter age a cutting operation would be too difficult and too dangerous; in those under 4 a good result, and perhaps complete recovery, might be obtained by immobilisation and prolonged extension. In cases usually of bilateral luxation —of extreme deformity from adduction in patients over 10—infratrochanteric osteotomy would be indicated.

OBSTETRICS AND GYNECOLOGY.

Gastro-Hysteropexy as a Safe and Reliable Means of Correcting Prolapsus and Retro-Displacements of the Uterus.—Bond (*Journal of the American Medical Association*) calls attention to the fact that by far the most frequent displacements to which the uterus is liable are the downward and backward—namely, the various degrees of prolapsus, retroversion, and retroflexion. But few, if any, troubles in the entire field of gynecology impose more of suffering and misery than is entailed by the inflammatory consequences of these affections. The reflex disturbances and the general ill health that usually follow often lead to melancholia, hysteria, and even more pronounced insanity. In many instances the health is wrecked, and the functions of the various systems of the body are so perverted as to lead to a condition of general impairment of nutrition which predisposes to the activity of any inherited tendency to disease.

After discussing the etiology and diagnosis of these conditions, Bond advises the following treatment:

The pessary finds its useful application in those cases of retroversion and retroflexion in which the uterus is not bound down by peritoneal adhesions, in which the ovaries are not prolapsed and—as is often the case—incarcerated in the cul-de-sac of Douglas, and in those cases in which the displacement has not lasted so long that the round ligaments and other supports have lost all power of regaining their resiliency. In such cases, having first relieved complicating conditions, such as laceration of the cervix and tears of the perineum, we can, by the patient and judicious use of the intra-vaginal or Smith-Hodge pessary, accomplish much for the relief of our patients; and, recognizing the fact that the displacements usually manifest themselves after parturition, it becomes the imperative duty of the obstetrician to make a careful physical exploration of the pelvic organs within eight or ten weeks after accouchement, with the view to correct any altered position of the uterus. At that period usually the displacement has not produced inflammatory results which would negative the use of the pessary, since such cases generally remain uncomplicated for a variable period of time, often months, save possibly by the results of subinvolution.

The conditions and results of treatment are far different when the displaced organ or associated pathologic state has produced pelvic peritonitis, the adhesive products of which have fastened the uterus, and possibly

the ovaries, in varying relations to each other in the cul-de sac of Douglas, with possibly suppurative results; so also are they different when the suspensory supports, from long continued traction have become so attenuated as to be practically paralyzed.

Prolapsus in the first degree can usually be corrected by the use of the pessary, after complicating conditions have been relieved, such as hypertrophy, elongation or lacerations of the cervix, or tears of the pelvic floor; but let the case become once well established, as is represented in the remaining degrees of prolapsus, and we have a condition of things represented by stretched and paralyzed suspensory supports; the cellular tissue is without elasticity; the muscles of the pelvic floor, if not torn, are atrophied and often have undergone fatty degeneration. Under such conditions it is idle to expect anything like complete and satisfactory results from the methods of treatment usually pursued.

In the case of the adherent retroposed uterus pessaries are inapplicable, and forcible breaking up of the adhesions after the method of Schultz, through the uterine cavity, is dangerous and often ineffectual. In short, all attempts to interfere with a uterus which is bound down by adhesions, other than through intra-abdominal procedure, are dangerous and to be condemned, for the reason that absolutely accurate knowledge of the pathogenic conditions cannot always be ascertained, and in this way we may unconsciously compromise the life of a patient by causing the contents of a pus sac to be liberated into the peritoneal cavity; and, further, it is a blind procedure, lacking all the elements of precision necessary to reliable and good ends. Here it is that a method of treatment presents itself which is both safe and efficient. This is hysteropexy. Many methods of conducting hysteropexy have been devised. Through it, in a sure and reliable manner, we place the uterus so that its posterior surface is opposed to intra abdominal pressure, which, as previously stated, acts from above and behind in such a manner as to assist in maintaining the proper position of the uterus. We thus supply the key-stone to the arch of uterine retention, without which in no uniformly reliable manner can the damaged pillars of support be made adequate to their requirements. It is remarkable how little force is necessary to keep the uterus antiposed when anchored ever so slenderly in its proper place.

The general precautions pertaining to a celiotomy having been observed, the opening through the abdominal wall is made as low down as practicable, and no larger than necessary to admit of efficient and expeditious work. The patient is placed in Trendelenburg's position, by means of which the pelvis is freed from the confusing presence of intestines and omentum, and they are spared the injury of unnecessary manipulation. The walls of the incision are held outward and apart, to admit of as free inspection of the pelvic organs as possible. By means of inspection and the sense of touch, accurate knowledge of the conditions and relations of the pelvic structures is obtained. If adhesions exist, they are broken up by means of the index and middle fingers; the ovaries and Fallopian tubes are brought up to the abdominal opening and carefully inspected, and if found to be seriously diseased they are removed, otherwise not. Small ovarian cysts are treated by clipping off a portion of the cyst-wall. The fact that the organs are found adherent is not in itself sufficient justification for their removal. Next, the uterus, having been lifted to the front, is seized through its fundus with a double tenaculum and held by an assistant in such relation to the abdominal wound that the operator can readily pass a curved needle threaded with a heavy chromicized catgut suture through all the tissues of the abdominal wall except the skin, embracing sufficient of them to secure a firm hold, then through the anterior and upper portions of the fundus and out similarly through the abdominal wall at the opposite side of the incision. The tenaculum is now removed and the assistant takes the catgut suture in its stead. The abdominal wound is then closed by interrupted sutures in the usual manner, with this difference, that the catgut suture that has transfixed the uterus is tied before, but not until the abdominal suture in closest relation to it has been drawn upon, so as to approximate the peritoneal surfaces. The tying of this last abdominal suture draws the skin over the catgut suture and thus buries it. This has been the author's method of operation, and the results have been uniformly good.

Hydrorrhea Gravidarum.—S. Chazan (*Centralbl. f. Gyn.;* Brooklyn *Med. Jour.*). Three principal sources of the fluid which escapes from the uterus during pregnancy are: the uterine wall, the pspace between the fetal membranes and the sac of the amnion. Hennig and Schroeder believe that the fluid collects between the chorion and the decidua, while Kaltenback and others consider that it lies between the opposed surfaces of the decidua vera and reflexa. The fact that the escape of fluid often begins in the third or fourth month, at a time when, under normal conditions, the two deciduæ have not united, supports the views of Kaltenback. In the early period of pregnancy a space is found to exist between the decidua vera and decidua reflexa which ordinarily contains only a little mucus, but which might become distended with fluid by hypersecretion from the decidua, or by hemorrhage. In recorded cases there has been no direct evidence produced that union had not taken place between the decidua vera and decidua reflexa; but this seems to be the probable explanation of the fact that the greatly thickened vera has been sometimes separately expelled after the placenta.

The nature of the pathological process which causes decidual hydrorrhea is still obscure. Braun emphasizes the existence of previous endometritis with exudation. Hegar considers the morbid process to be of the nature of hypertrophy of the decidua, especially of its glands. Scanzoni believes it to be due to transudation dependent upon the condition of the blood. Zini regards the fluid

as an extravasation resulting from the hyperemia, and increased vascularity of the uterine mucosa. Chazan himself is inclined to refer it to the periodic congestion of the genital organs, which occurs during pregnancy.

Duges and Jorg indicate the allantois as a possible source of the fluid in hydrorrhea. It is well known that in many instances the amnion and chorion, instead of being glued together by an amorphous tissue, are separated by a collection of fluid, so that two sacs are present in the afterbirth. It may be that these so-called forewaters can escape during pregnancy, and thus explain some cases of hydrorrhea, but this cannot be proved, because we know no sign by which these waters may be distinguished. Doderlein has proved that in a case observed by him, the forewaters could not be chemically distinguished from the liquor amnii.

There still remains that form of hydrorrhea in which the liquor amnii escapes during pregnancy. Chazan records the case of a primipara, aged twenty-three, who consulted him, when five months pregnant, for thirst, weakness and dyspnea. He diagnosed hydramnion from the large size of the uterus. About the end of the sixth month labor pains set in, and abortion seemed about to occur. After the pains had lasted for some hours, however, a large quantity of watery fluid escaped, and the pains then gradually ceased. Fourteen days later a second escape of fluid occurred, preceded by pains of similar character to the first. The patient then went without any further loss of fluid to term, when a normal labor occurred, the child being strong and well developed. The afterbirth was carefully examined, the chorion was found to be separated from the amnion over a wide area; besides the opening through which the fetus had passed, a second aperture, as large as a sixpence, with slightly thickened edges, was found in the amnion in the separated area.

NOTES AND ITEMS

The Columbus Medical Journal.—The *Columbus Medical Journal* is now a bi-weekly instead of a monthly, and Dr. R. Harvey Reed is the editor-in chief.

Condidate for Congress.—The *Medical Sentinel* states that Dr. John B Hamilton, of the Marine-Hospital Service, is a candidate for Congress as the representative of a Chicago district.

Professor Pettenkofer's Resignation.—A newspaper dispatch from Munich says it is understood in that city that Professor Pettenkofer's resignation from the faculty of the university was brought about by pressure from Berlin, owing to the Professor's objections to certain anti cholera measures recommended by Koch.

Red Light in Small-Pox.—Tindholm and Finsen, of Bergen, who have made a special study of small-pox, have demonstrated that the skin of small-pox patients is peculiarly sensitive to violet light, and that it is the latter which gives rise to pitting. To ascertain the efficiency of red light to prevent pitting in small-pox patients, one of the small-pox pavillions at the Riverside Hospital on North Brother Island, New York, is to be fitted up with red glass windows, and with red-glass globes for night lights.

A New Parasite in America.—The announcement of the discovery in this country of the "Distoma Ringeri," by Prof. Ward, of the University of Nebraska, is attracting more attention abroad than at home. This fluke has hitherto been found only in the far East—China, Japan, Corea and Formosa—where it infests the lungs of man, giving rise to periodical hemoptysis (Foster's Med. Dict.) and chronic cough with rusty mucoid expectoration. Already we are told that if this parasite "is now endemic in America we may expect to hear more about it soon, not only as a parasite of the lower animals but as a cause of endemic hemoptysis in man." Here is a brilliant opportunity for the men who are "in love with a microscope" and prone to "flirt with pathologic specimens." Endemic hemoptysis may soon become as fashionable as appendicitis.—*Jour. of the Amer. Med. Ass'n.*

The Atheism of Doctors and Lawyers.—The medical profession is frequently accredited with atheistical tendencies and leanings (*Medical Age*). Be this as it may, such is usually a matter of conscience with the doctor; but with the lawyer is apt to be a matter of dollars and cents, as witness the following:

A woman who recently died in Buffalo, N. Y., left the sum of $1,600 to be expended for "the repose of her soul." Now come certain attorneys into court, the legal representatives of the loving (?) children, praying that the bequest be set aside on the ground that "the existence and immortality of a soul have never been proved," and that even if they had, "a soul has no standing in court." They further verbosely, technically and wickedly allege that "the existence of a soul is not subject to proof," and that "an immaterial and immortal essence cannot derive any benefit from the expenditure of any material money." What next?

Legislators Going to School.—The German Cultus Minister has, in response to repeated stimulation by a sanitarian deputy, consented to organize systematic courses of instruction in matters appertaining to public health for the special benefit of members of the German Legislature. Lectures are to be given by the professors of hygiene of the various German universities on the principles of hygiene. Probably in the fear lest the legislators might not go to the lectures, it has been arranged that the lectures are to come to them, for they will be given within the precincts of the Legislative

Chamber itself. The idea thus put forth is delightful, and it ought to be Americanized at once. If we could only have in Washington lectures on economics for the populists, lectures on statesmanship, money and taxation for Republicans and Democrats, lectures on verbigeration and morals for all, it would greatly promote the usefulness of our law makers, and give an enormous impulse to the activity of our educators.—*Medical Record.*

A Prize for an Essay on Tuberculosis.—As an inducement to cultivate original investigation the Colorado State Medical Society adopted the following resolution at its recent meeting held in Denver:

Resolved, That this Society offer a prize of $100 for the best essay upon the following sujects: "The Diagnosis of Tuberculosis by Microscopic Examination of the Blood." Preference to be given to new evidence and the detection of the pretubercular stage; all stages, however, to be included and microscopically differentiated. Paper to be condensed to read in thirty minutes' time, to be type-written, and the authorship to be kept secret till the award of the examining committee is made known. Prize open to anyone. Essay to be written in the English language, in comprehensive style, and as free from purely technical expressions as possible, accuracy of definition and clearness of diction considered. The committee to reserve the award for an essay they deem sufficiently meritorious, that is, the rules to be observed enabling a diagnosis to be made from the blood alone, without the patient being seen. All essays to be handed or sent to the chairman of the committee, Doctor Charles Denison, Denver, Colorado, by April 1, 1895.

Increase in Metropolitan Diphtheria.—Dr. John F. J. Sykes has recently presented a report to the vestry of St. Pancras on the increase of mortality from diphtheria in London, and the document is one which merits attention from several points of view (*Brit. Med. Jour.*). He first points out that the rate of death from such diseases as scarlet fever, which responds directly to measures of isolation and disinfection, as also from enteric fever, which responds to general sanitary measures, have both undergone substantial reduction during the period of twenty years terminating in 1890, whereas the diphtheria mortality has undergone increase in England and Wales, and has more than doubled in London. He also shows that, whereas the scarlet fever mortality is falling *pari passu* with the increase of hospital accommodation for its isolation, no such means of isolation were available for diphtheria in the metropolis until 1889. Since then hospital accommodation for this disease has been provided, but the number of deaths in the metropolis from this cause has risen from 1,617 in 1889 to 1,969 in 1822, and to 3,265 in 1893. Hence no diminution has yet taken place, and the effect of the isolation of diphtheria in hospital yet remains to be seen. But it is satisfactory to note that the fatality per cent of admissions to hospital has fallen from 41 in 1889 to 29 in 1892.

Dr. Sykes also arrives at the conclusion that "the relationship of diphtheria to insanitary conditions is overwhelmed by the influence of personal infection;" and this leads him to discuss the opinion enunciated in the Milroy Lectures for 1891 on the Natural History and Prevention of Diphtheria, to the effect that the increase of diphtheria in this country was largely due to the aggregation of children in schools under the action of our Legislature as to elementary education. Limiting himself to the metropolis, Dr. Sykes traces the various stages by which our metropolitan child population has been increasingly got together in schools. He gives the census returns of population, and each year's average number of children on the roll of the Board and non-Board schools; and side by side with the increase in school attendance he shows the almost steady increase in the annual mortality from diphtheria. He next shows that a somewhat sudden increase in the diphtheria deaths in the later part of the last decennium was due to the transfer from the group of throat diseases—other than diphtheria—of a number of affections that were thenceforward styled diphtheria, the resulting increase being essentially in young children under the age of 15 years. And he arrives at the two following conclusions:

1. That a slight diminution is taking place in the death-rate from throat diseases as a whole.

2. That a great rise in mortality from diphtheria corresponds with a great fall in that from other throat diseases.

But Dr. Sykes' conclusions are based upon data which terminate at times with the year 1891, at others with the year 1892, and we cannot but think that if, when he wrote his extremely interesting report, he had had access to the data for 1893, he would probably have come to the conclusion that the rise in the diphtheria mortality was not so distinctly related to diminution in deaths from "throat diseases" as appears at first sight. The largest number of deaths from diphtheria in the metropolis which he records is 1,885 (1,969 corrected return) for the year 1892; but in 1893 they were no fewer than 3,265, and this with no corresponding diminution in throat diseases properly so-called, for the insertion of "thrush" among throat diseases is not usual; besides which the diminution even in fatal attacks of thrush in no way accounts for the enormous increase in fatal diphtheria. In one of his tables Dr. Sykes gives the quinquennial mean death rate for "throat diseases," including diphtheria, as 562 for the five years 1881 to 1885, and 542 for the five years 1886 to 1890; but in 1893 the rate reached 760, a rate far in excess of any experienced during any portion of the period dealt with. And Dr. Sykes himself would seem not to desire to attach too great importance to the diminution of fatal throat disease other than diphtheria as a cause of the increase of diphtheria, for in finally reverting to the question of "school influence" as a factor of which account has to-

be taken, he states that Dr. Thorne Thorne's "conclusion that increased school attendance has had a material influence in increasing the spread of diphtheria is irresistible."

In view of this opinion, which now finds many supporters and which has been enforced again and again by the remarkable researches of Mr. W. H. Powers, the question that remains to be solved for the purposes of the sanitary administration of districts, whether urban or rural, is in what way school attendance can be so controlled as to eliminate the operation so-called school influences in the development and propagation of diphtheria without causing such interference with the operations of our elementary schools as is not likely to be entertained in the present day. Elementary education must be maintained as a part of our system of national progress, but every effort should be made so to maintain it as to avoid the increasing sacrifice of life from a disease which seems at present to be so clearly identified with the steady increase of school operations in this country.

Woman in Medicine.—A French compiler, M. Marcel Baudouin, furnishes a resume of the legal status of women in the medical profession in various countries, in which, simgularly enough, he omits all but the merest mention of the gentler sex in France. According to M. Baudouin women are rigidly excluded from the advantages of a university education in Germany, and consequently may not become candidates in any medical examination; "it naturally follows that no medical woman can be the possessor of a certificate carrying with it the slightest value in Germany," since a state license upon examination is necessary to practice in that country. In Austro-Hungary the situation is even worse; there the admission of women to higher grade instruction is formally forbidden by law. Spain is quite as bad; in fact the difficulties are said to be even greater in the Iberian peninsula than in Germany and Austria. In England, Ireland and Scotland the universities—through which lies the registration necessary to the right to practice—are now all thrown open to women, Scotland having been the last to yield to the new order of ideas; in Ireland, however, while a woman is afforded every facility for obtaining a medical qualification she may not fill any public office under the State. Similarly in Sweden, Norway and Denmark, the medical career is open to all without distinction of sex—save in the matter of State appointments. In Belgium, Holland and Roumania the broadest views prevail regarding the medical rights of women; they may do and be, as physicians, all that mem can and are, *ceteris paribus*—which they are not. The right of women to practice is fully recognized in Italy, and a woman occupies the Chair of Histology in the Medical Faculty of Bologna.

In 1893 there were 308 women attending medical lectures in Zurich, Geneva, Berne, Basle and Lausanne, but there are only ten women practicing in Switzerland; after graduating the students returned to their own countries to practice, principally to Russia In this latter country, Russia, there were 546 women practitioners in 1893, and women are there allowed by law to become assistant surgeons in all railway administrations; in 1890 a special medical school for women, after the American model, was established in Moscow. Universities in many of the English colonies have been open to women since 1875, and in France woman first obtained foothold in a university in 1863, but five years later there were only four female students in l'Ecole de Medecine of Paris; the more beautiful women of a most beautiful country do not seem to take kindly to the practice of physic, notwithstanding the illustrious examples of Mesdames La Chappelle, Bourgeois and Boivin, concerning whom it has been said that "if their mantle could be made to fall on the shoulders of their sisters of the present generation female delicacy would be saved many a rude shock and the cause of science would in no sense suffer."—(Leishman, "System of Midwifery.") M. Baudouin concludes with the following tribute to this country:

"Only a moment's consideration of the following statistics is necessary to convince an inquirer that he must proceed to the United States of North Ameriea if he wants to study effectually the question of medical women. According to a statistical report drawn up by M. Frank, of Brussels, there were in 1893 on the other side of the Atlantic fully two thousaud women practicing medicine in one or other of its forms and inclusive of 130 'homeopaths.' The majority were general practitioners, but there were also 70 hospital physicians or surgeons; 95 professors in the schools; 610 specialists for the diseases of women; 70 alienists; 65 orthopedists; 40 oculists and aurists, and, finally, 30 electrotherapeutists. In Canada there is but one medical school exclusively for women, but in 1893 there were ten such in the United States. It must not be forgotten also that all medical schools in America are freely open to women, and that mention of this is by no means omitted from their published announcements."

This latter statement is not entirely accurate, since many schools refer women applicants to their special colleges, preferring to avoid a certain embarrassment that sometimes arises in medical co-education. M. Baudouin might have also included mention of the fact that medical women in the United States are eligible to governmental appointment, and at least one woman, Dr. Sarah Hackett Stevenson, is a member of a State Board of Health which examines and licenses applicants for the right to practice.—*Jour. of the Amer. Med. Ass'n.*

Dr. Hannah W. Watkins, a graduate of class 1893–'94, Woman's Medical College, of St. Louis, recently submitted to a critical examination before the State Board of Medical Examiners of Pennsylvania, but had no difficlty whatever in winning the certificate of froficiency from the State Board, so creditably did she answer all the difficult questions propounded by the members of the Board.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Fracture of the Cervical Vertebræ Complicated With Azoturia.

BY D. C. CAMPBELL.

The following case occurred in the practice of Messrs. Greaves, Faulkner and Jones, Manchester, and being one rather out of the usual run, I thought it might prove interesting to some of your readers.

On the morning of Thursday, June 7, about half-past six, I was called in haste to one of the large railway company's stables to attend a horse, which, according to the messenger's account, was down and could not get up. I immediately set out, and on my arrival, found the patient to be a large bay cart horse. He was lying in the passage, between the two rows of stalls, supported by bags of straw and covered with rugs.

HISTORY.—The horse had been standing idle for some days, under treatment for canker. On the Wednesday night he was left apparently all right, having taken what food and water was allowed him. On Thursday morning about 5:30, the attendant found him cast in the stall, his body lying right across the stall and his head and neck firmly fixed in the left hand corner under the manger. Plenty of assistance being at hand he was pulled back and raised to his feet, when he seemed to stand all right. The attendant, anxious to see whether or not he was hurt, backed him carefully out of the stall, and tried to walk him along the passage. He managed to walk about three yards, then suddenly fell, and all efforts to raise him again were fruitless. Seeing this, the attendant made him as comfortable as possible and sent for us.

SYMPTOMS.—The horse was lying on his off side, occasionally struggling very violently, using both fore and hind legs very well. He would try very hard to get to his feet, but seemed quite incapable of doing so. At times he would elevate his head and try to look round, but seemed to use his neck very stiffly. On examination I found that the pulse at the jaw was altogether imperceptible, but on taking the impulse of the heart at the chest, I found it to be 104 per minute. The visible mucous membranes were very much injected. Ears and legs cold. Temperature, 101° F.; respiration very hurried. Countenance very anxious. I was told that at first he had perspired profusely, but by the time I saw him he was cool and dry.

DIAGNOSIS.—Surmising from this condition that there was some injury to the spinal column, and from the stiff movements of his neck, most probably located in the cervical vertebræ, I proceeded to make a careful examination. Commencing at the head, I found that it was very much bruised and cut from dashing it about on the stones of the stall. I manipulated carefully about the occipito atlantal and atlanto-axial articulations but discovered nothing, and on flexing the head on the neck no pain at all was evidenced. Proceeding downwards I found very slight swelling about the middle of the neck, and on pressure over it, a slight degree of pain was produced. No sign of pain was shown on pressure over any part of the spine. I next examined all the legs, but found nothing amiss with them and as he could use them very well, I put the idea of injury to them to one side. Manipulating the muscles of the shoulder and elbow I found that they were rather tense, and passing back to the muscles of the quarters and loins I found that they were exceedingly so. This aroused a new suspicion in my mind, viz., that I had "azoturia" as a complication.

PROGNOSIS.—I informed the attendant that in my opinion the horse was suffering from severe injury to the spine, in the region of the neck, complicated with an attack of "azoturia." My reasons for arriving at these conclusions were as follows:

1. The horse had been standing idle for some days, getting a fair allowance of nitrogenous food.

2. During the night, I opined that he had suffered from an attack of colic, and that in the restlessness consequent on the pain, viz., lying and rolling, he had become fixed in the stall.

3. Finding himself fixed he would struggle more violently, become more securely fixed, and at that time, no doubt, injure his neck.

4. The exertion caused by the struggling brought on an attack of "azoturia" in the same manner as exercise does after a horse has been standing in the stable for some days. Unfortunately I had not provided myself with a catheter so could not get positive evidence of the existence of azoturia by the withdrawal of urine.

I told the attendant that I considered the case hopeless but would return in a short time and see if any further symptoms had developed, and I would also bring a catheter with me and withdraw the urine.

In the meantime I saw that the horse was made comfortable, and I gave him a stimulating drink consisting of spts. ammon. aromat. and spts. ether nit. He experienced no difficulty in swallowing and took the drink very well. To keep him quiet and prevent him further injuring himself, I gave him a hypodermic injection of morphia. I instructed the attendant to give him diuretics in the shape of pot. nit. ℥j in half a pint of water, and to keep hot flannel cloths on his neck.

I was unable to see the horse again, but he was seen by the assistant, Mr. Crook, about 11:30 in the fore-

noon, and the following were the symptoms then shown.

Pulse imperceptible; breathing oral. The neck particularly about the center was very much swollen, muscles of shoulders, quarters and loins still very tense. There had been profuse bleeding from both ears. On passing the catheter a fair amount of dark coffee-colored urine was withdrawn, and a subsequent examination of this convinced us of the existence of azoturia. Soon after the withdrawal of urine the horse made some slight struggles and died.

POST MORTEM.—The post-mortem made by Mr. Crook on Friday revealed the following conditions: The muscles of the loins, quarters, back and neck were bruised and blackened, but in the case of the first three only superficially. Beginning at the neck and cutting down on the cervical vertebræ, Mr. Crook found that a partial dislocation of the neck had taken place between the third and fourth vertebræ, and the same between the fourth and fifth vertebræ.

These vertebræ were carefully cleaned and are now in our possession. The condition they exhibit is as follows: In the fourth vertebræ the anterior extremity of the body is broken off about half inch behind the articulation. Another fracture extends obliquely from right to left across the roof of the neural canal, completely detaching the anterior oblique process on the right side, the anterior portion of the neural spine and half of the anterior oblique process on the left side. The anterior extremities of the transverse processes of both sides are also fractured. In the fifth vertebræ, the anterior oblique process of the left side is fractured right through its center.

On opening the abdomen and examining the bowels patchy inflammation was found, particularly in the double colon, the wall of the bowel also being thickened. Here no doubt was the seat of all the trouble. Of the other organs, the kidneys were found to be very much congested, but sub-lumbar muscles apparently healthy. Liver extremely congested, bladder empty and apparently healthy. Lungs engorged with blood, due to gradual suffocation by pressure on the cord. Trachea and larger bronchi contained froth, and mucous membrane was gangrenous.

A sample of the urine was submitted to Professor McFadyean for examination, and he reported that he considered it quite characteristic of azoturia.—*Veterinary Record.*

Rupture of the Rectum Due to Calculus.

BY WILLIAM BROWN, M.R.C.V.S.

The following case, which to me seems rather uncommon, occurred in the practice to which I am attached, during the present week. Early on Monday morning I was hurriedly summoned to attend a case brought into the infirmary, said to be suffering from colic (?).

Proceeding immediately to a loose box in which the animal was located, I found my patient to be a four-year old chestnut gelding actively engaged in the act of vomition, during which fluid of a chymous character was ejected from the nostrils, and to a lesser extent through the mouth; this, together with evidence of severe pain, profuse perspiration, and staggering gait, were sufficient to convince me of the hopelessness of a cure being effected. Scarcely had I formed this opinion when he staggered, fell forward, gave a few spasmodic struggles and died. On inquiry I found the animal had been left apparently well the previous evening but on the attendant's arrival the morning following he found her suffering from what he described as colic (?), therefore he brought her, as before mentioned, for treatment.

On post-mortem examination the first abnormal condition to attract attention—after incision into the abdominal cavity—was a large quantity of normal feces, thus giving a clew as to the actual cause of death. The peritoneum presented extensive highly inflamed areas, and especially were these marked on the lower surface of the abdominal cavity. Examination of the bowels revealed a transverse rupture involving two-thirds of the rectal bowel, immediately posterior to which a large phosphatic calculus was fixed; this stone simulated a pear in shape and weighed exactly fifteen ounces. Four stones varying in weight from six to seven ounces were also found in the colon.

Several interesting points are here presented for our consideration, viz.:

1. What is to be regarded as the cause of vomition in this case? I have observed vomition as a symptom of rupture of all the divisions of the alimentary canal—with the exception of the rectal segment—previously but until the case under description, never from rectal rupture.

2. Is it not unusual to find five calculi, four of which are almost the same weight, shape and size?

3. Supposing the calculus had been removed by manipulative means previous to rupture, would purgative treatment, with a view to the removal of any remaining calculi, be a wise course to pursue?—*Veterinary Record.*

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ORIGINAL ARTICLES

Ovarian Tumor; Ovariotomy; Broad Ligament Cyst. Sacral Resection; Prolapsus Uteri; Hystero-Epilepsy.

BY E. E MONTGOMERY, M D, PHILADELPHIA.

Professor of Clinical Gynecology, Jefferson Medical College; Gynecologist to Jefferson and St. Joseph's Hospitals; Obstetrician to Philadelphia Hospital.

Clinical Lecture Delivered at the Jefferson Hospital.

GENTLEMEN.—I embrace the privilege of having a fresh specimen to show you, this large tumor removed from a patient this morning. The woman had had an enlargement of the abdomen which had gradually increased in size for a number of years. The abdomen was greatly distended, presenting a mass which extened to the xiphoid appendix. In addition to the presence of the mass itself, there was quite a considerable accumulation of ascitic fluid. This tumor was slightly elastic, and did not give rise to a sensation of fluctuation. It had been diagnosed by a number of physicians as fibroid tumor of the uterus, and the patient had been advised against its removal. I saw her several years ago, and at that time advised an operation, but as my advice was contrary to what she had received from others she consulted another physician and was directed by no means to submit to it. Upon her return a couple of weeks ago for examination, she was much thinner, the abdomen more prominent and the evidence quite distinct of ascitic accumulation. I again advised operation, to which she this time consented. The tumor was so closely connected to the uterus, together with its elasticity without fluctuation, that I was inclined to believe it was possible it might be a fibro-cystic tumor of the uterus, but this morning while she was under an anesthetic, in washing out the vagina I became satisfied that the uterus was not a part of the mass. On opening the abdominal walls, the tumor presented a pearly appearance and running over the greater portion of it was the elongated broad ligament, showing that the tumor had developed behind the broad ligament and as it had been shoved up, the tumor was held more firmly against the uterus, giving rise to the difficulty in determining its true character There were no parietal adhesions, but the omentum and transverse colon were adherent over the superior surface, the latter so firmly that it was necessary to cut through the peritoneal layer of the tumor in order to separate the colon from the sac. This was the only point from which any bleeding occurred. The pedicle was a broad one and was ligated in four segments. The abdomen was thoroughly irrigated with a salt solution and as the patient was profoundly shocked with the taking off of the intra-abdominal pressure, salt solution was transfused beneath the scapula. In pulling out the tumor, the sac ruptured, permitting a portion of the fluid to escape into the abdominal cavity and for that reason irrigation was demanded to be thoroughly done. A gauze drain was placed in the lower angle of the wound, and the latter closed. The patient reacted very well. Now in looking at this tumor you will notice that its walls are somewhat thick and there is a large amount of solid material within it which has undergone a fatty change, showing apparently pure lumps of fat. As we look at the walls of the cyst we find yellow points in it, some of them as large as a silver dollar. These points, in pinching with the nail, can be broken, showing the cyst was undergoing fatty degeneration and was liable at any time to rupture, producing, possibly, serious results. These tumors are what are known as the glandular proliferating cystomata. As we look at it more closely, however, we find points from which hair protrudes, showing that the original source of the tumor is from what is known as the dermoid cyst. This case illustrates some of the difficulties in diagnosis, and the futility of informing the patient that the tumor is one which cannot be removed. We say this is a glandular cystoma, to distinguish it from the papillary variety which develops or has its origin in the hilum of the ovary and produces a tumor of less size which is likely to rupture early from the proliferation of the papillary structure within it.

While this specimen is being passed around I will bring into the room a young lady upon whom you witnessed an operation one week ago to day for the removal of a large glandular cyst, the solid portion of which weighed 23½ pounds; the fluid withdrawn would weigh fully as much more, making the entire weight of the

tumor close to 50 pounds. I bring her before you to show you how delightful a result has occurred. I have no doubt many of you thought she would not live through the day after the operation was performed, as she showed profound shock, and I am confident it was only carried through by the administration of quite large doses of strychnine hypodermically. She was given as much as a quarter of a grain during the time she was in the operating room and a few hours after it. After rousing from the shock, however, she has continued to do well. The gauze drain had been introduced from which there was a large quantity of discharge during the first forty eight hours; since that there has been scarcely any; the drain has been out now for several days. We will expose the wound, observe its appearance and remove the sutures. We used in this case interrupted silk suture through the entire wall. In looking at it we find the union has been complete and we will proceed to the removal of the sutures. To do this I have had the wound carefully washed; taking aseptic forceps and scissors, we raise up the sutures and cut them at a point which is covered with the skin. Now you will notice that I do not draw these sutures out; I simply cut them in two and continue until the last one is cut, then catching hold of the suture and pressing against the abdomen with the finger I draw them out. If I had removed these sutures as fast as they were cut, by the time the last one had been removed the patient would have been, possibly, hysterical and taken some little time to recover from it. By doing it in this way the sutures can all be pulled out in a moment and the patient does not have time to get greatly worried. I notice the last suture, or the one nearest the gauze drain, has evidently been infected from the frequent change of dressing and the escape of fluid, so that there is a small stitch abscess. This we squeeze out carefully and re-dress the wound.

Broad Ligament Cysts.—This patient, upon whom I operated before one of the sections two weeks ago yesterday, I bring before you to-day to show you the line of union. Some of the members attending the section on Monday will remember the patient had a broad ligament cyst of the left side, and with it we removed the left ovary and tube. This broad ligament cyst differed much from the ordinary, in having a long pedicle, and the latter was twisted some three times so as to almost destroy the vitality of the tumor. It had probably been maintained by some adhesions to the omentum. In closing the wound we use a fine continuous silk suture to close the peritoneum. Interrupted sutures were then introduced through the aponeurosis and muscle to bring these in accurate apposition. The external or skin wound closed by introducing sutures from one side to the other, alternating from one side to the other through the deeper layer of the skin without penetrating its outer layer. This suture was introduced some little distance from the wound at one angle and brought out at some distance from the other; after it was introduced, drawing on the two ends of the suture brought the surfaces in apposition and I am glad to show you to-day the result. We have here a ventrum in which we have no fear of the development of hernia, the parts being held in contact or together by silk sutures, which, as they have not been infected, would not be likely to become so hereafter. This group of cases have been an exceedingly interesting one, presenting different varieties of abdominal cysts, one being glandular and dermoid, another a pure glandular cyst, and the last one a broad ligament cyst.

Sacral Resection.—The next patient you will remember is one upon whom we operated five weeks ago, resecting the sacrum, excising five inches of the rectum, posterior wall of the vagina and perineum, and the uterus and ovaries. This was done, although the patient is but 23 years of age; the operation was performed for a malignant disease involving primarily the rectum. The disease had extended through the anterior wall of the vagina; growths were found upon the anus extending forward in the posterior commissure of the vulva, so that the operation, in order to prove successful at all, required the removal of the tissues named. After the operation the rectum was drawn down, stitched fast to the anterior wall of the vagina in front, and posteriorly to the skin over the sacrum. Laterally the walls were stitched down to the posterior wall of the vagina; this resulted in union on the left side, while the right side, being subjected to more handling, the sutures tore out, leaving it to cicatrize and contract. The process of cicatrization has gone on rapidly and the parts are very much contracted, so that the buttocks now lie directly in apposition. This seems an uncomfortable condition for a patient to be left in but it is the only one which afforded the slightest hope of a radical cure, and as colotomy had been previously done there was nothing to do but to attempt such a radical operation or let the patient go on to her fate undisturbed. She is now quite comfortable, is gaining in flesh and strength, has improved in her general appearance, and is very bright and happy.

Prolapsus Uteri.—The next patient is a woman 52 years of age, who has suffered from a mass protruding from the vulvar orifice. This has been in existence for a number of years. On the slightest increase of the intra-abdominal pressure by straining it is at once extruded. As we look at it we see a mass filling up the vulvar orifice, consisting apparently of the anterior and posterior walls of the vagina, with a mass projecting from the center, with an orifice within it which we recognize to be the external os of the cervix. It is very readily seen that we have here a case of procidentia, although this can only be determined by more careful examination. This is accomplished by placing the hand over this prolapsed tumor above, and the other hand behind it and pressing these near together near the vulvar orifice. As we do so we find the fundus of the uterus absent from the situation; the hands and fingers do not come in contact with it. Examining the tumor further, we find the entire uterus is outside of the

vulva and the organ lies in a retroflexed position. The retroflexion can be distinctly determined by pressure against the mass. In looking at one side you will notice an ulcer the size of a silver quarter. This has resulted, undoubtedly, from the pressure or friction against clothing or her limbs, and the contact with urine flowing over the tamor. What more uncomfortable condition can a patient experience than with a mass of this kind protruding from the body, interfering with locomotion, becoming abraded and ulcerating, bleeding constantly, bathed with urine, interfering with the action of the bowels and making her generally uncomfortable? You will ask me what is the best thing to do. Now, there are a variety of methods of treatment. This condition has been recognized by the ancients and they looked on the uterus as a sensitive body and subjected it to a nauseous odor and fumigations, or brought it in contact with disgusting animals, such as lizards and frogs. We find Soranus criticises some of his colleagues for having attempted to cure prolapsus by suspending the patient head downward. Various mechanical means are used, such as pessaries with or without external support. Any pessary would be badly borne in the vagina of a patient suffering as has been this one. The pressure of the pessary would be likely to increase the ulceration that is already present and unless it was quite large would not be retained in such a pelvis. Those with external support also give rise to ulceration, are uncomfortable to wear and produce a certain amount of irritation and discharge. With regard to surgical measures, u number of procedures have been suggested. The various plastic operations consist in resecting the anterior and posterior walls of the vagina and suturing these, in this way imprisoning the uterus. The difficulty in such procedures, however, is that the uterus is only held in the upper part of the vagina and resting on the newly united tissues, giving rise to intra abdominal pressure, as the wedge being driven into the canal, and thus gradually re-developing hernia, leaving the last condition of the patient to be much worse than the former. In such a case, a patient of her age, with ulceration such as is here present, the better plan of procedure would be to extirpate the uterus. This can be readily done as the entire field is under inspection and bleeding vessels can be readily and quickly secured. Following the removal of the uterus, the peritoneum can be closed up and the vaginal walls retracted, thus insuring the patient from further trouble. As the uterus is entirely outside the pelvis, the condition is that which is recognized as procidentia. You should keep in mind the fact that not every case of prolapsus is one of procidentia, while every case of procidentia must necessarily be one of prolapse.

Hystero-Epilepsy.—The next patient I bring before you is a young lady who has been suffering for the last year from hystero-epileptic attacks. These attacks occur regularly each day at about half past one, and again at seven, two attacks occurring in the day. As I bring her before you, you will notice that she continually beats the mattress with her left hand, is rolling her head from side to side and moving the right foot. The regularity with which these attacks occur and the general appearance indicate their character. This patient, as we have said, has these attacks regularly at half past one, but we have suggested to her to-day that it would be a great convenience if she would have them a little earlier and she has been accommodating enough to have an attack for our benefit. We could not have better evidence of the character of the condition. Now, there is a history of some pelvic disorder for which she has been treated, and I understand she is now wearing a pessary with external support. We will remove the pessary and will endeavor to improve her general condition. In consideration of the diseased condition of the uterus, we will give her a careful examination and if we find evidence of endometritis we will place her under an anesthetic, dilate and curette the uterus and pack with iodoform gauze as a drain. The patient was sent to the ward later in the day and had another attack of the trouble. Nurses were ready for her, however, and soon put her in an ice pack and it did not last more than two or three minutes before she began to shiver and say it was cold, and recovered in five minutes from an attack which usually had persisted for an hour and a half. This method of treatment will be resumed whenever an attack occurs.

Poisoning by Benzine.—Rosenthal (*Centralbl. f. Inn. Med.*) reports a case in a girl aged 1½ years. The quantity taken was uncertain. When seen, ten to fifteen minutes afterwards, the child was in a condition of stupor, with half-open eyes. The radial pulse was small, frequent and subsequently could not be felt. Respiration 60 to 70. A tube was passed through the nose and the stomach washed out. The water used for the washing smelt strongly of benzine and contained blood stained masses of mucus. In about six hours the child had considerably improved, and subsequently recovered completely. Benzine produces a gastro-enteritis, as, indeed, it has been shown to do in animals. Treatment should consist in washing out the stomach as soon as possible, as benzine is rapidly absorbed. If the breathing fails, artificial respiratian should be practiced. Benzine is not identical with benzol, but is a mixture of hydrocarbons, especially hexan and heptan. Sometimes benzine poisoning is caused by inhalation. The author refers to a case of an alcoholic who took to inhaling benzine in place of drinking. He also refers to some instances in glove cleaners, and observes that this fact should not be overlooked in such cases.

Dr. Charles Henry, of Jacksonville, Ill., fell dead on a railroad train August 23, as he was returning from the West, where he had been enjoying a vacation and hunt. He was eminent in his profession and had a good fortune.

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The Black Plague.

All that is known about the etiology of the dreaded scourge of former centuries, the black plague, is that, like cholera, its outbreak is induced by unsanitary conditions. The symptoms of the disease point to the fact that it is an infectious disease caused by some micro-organism. Its present outbreak at Hong Kong also suggests the idea that in all probability the disease germ lies dormant for an indefinite length of time until the surroundings are favorable for its development; for had the disease been carried into Hong Kong from some other part of the globe, we would in all probability have heard from cases along its route to China. However, as long as the germ which probably causes the disease and its biological characteristics, in connection with the peculiarities of the various epidemics, has not been studied, no theory, no matter how probable it may appear, can be proven to be correct. At the present time we can only judge from analogy and can only look upon any view taken of the causation of the disease as a hypothesis, accepting the most probable hypothesis as the correct one and act accordingly until it has been verified or proven to be false by exact scientific inquiry. The plague is without doubt a filth disease and can be kept away by quarantine and proper sanitation. Wherever there have been approximately reasonable sanitary conditions the disease has not made its appearance in an epidemic form and although some sporadic cases have occurred in Europe during the last two centuries, no epidemics have occurred there in that time. Civilization has made the epidemics of this plague impossible, while it was the scourge peculiar to the middle ages. It has often been a concomitant of cholera and the etiological factors in both diseases have in all probability some common characteristics or biological traits. The symptoms of the disease vary somewhat according to the severity of the epidemic; the present epidemic at Hong Kong being characterized as follows: "With or without premonitory malaise or chill there is a sudden onset of high fever. There is much headache and cerebral disturbance, accompanied by stupor. In from twelve to twenty hours a glanduiar swelling, hard and tender, occurs in the neck, armpit or groin, rapidly enlarging; coma gradually supervenes and the patient succumbs at the end of eighteen hours or sooner. After the sixth day recovery is hopeful. In some cases epistaxis and hematemesis have been observed; also petechiæ, but no regular eruption."

The Possible Cause of Small-Pox.

The reason why no parasite has been discovered as the cause of small-pox in spite of the efforts of pathologists has been suspected to be due to the fact that the micro organism which in all probability produces this disease requires a staining method differing from the methods usually employed. The opinion has also been expressed by some authors that small pox in all probability is due to an animal parasite, an ameba Guarnien and Monti have found protozoa in the pustules of vaccinia and variola. M. Armand Ruffer and H. G. Plimmer claim to have found protozoa identical with those of the French authors, and according to an article published by Ruffer and Plimmer in the *British Medical Journal*, for an abstract of which we are indebted to the *American Medico-Surgical Bulletin*, "these parasitic bodies were found in the vaccinia pustules of man, the cow, monkey and rabbit. The fresh tissue was put in a saturated solution of sublimate and then hardened in alcohol. Sections were cut in paraffin and then passed through tincture of iodine to remove excess of bi-chloride; they were stained with hemotoxylin, carmine, etc. The protozoa are small round bodies, sometimes with a more deeply-staining center. They are four times larger than an ordinary staphylococcus and lie in a clear vacuole in the epithelial protoplasm. They multiply by division into two (or its multiples) parts. When fresh, slight ameboid movements may be seen. Both nuclear and protoplastic dyes stain them easily, although the latter do better.

"These parasites occur in the stratum Malpighii when vaccinia is inoculated on the skin. After a few days

they are found only at the margin of the pustule. In the protoplasm of the cell they stand out clearly. The epithelial cells in the neighborhood undergo degenerative changes until the picture resembles that of cancer. There are present all the cell inclusions, vacuolizations, etc., so often seen in cancer. The same parasitic bodies are found in sections of the skin from variola cases and in the pustules of the larynx and trachea. In all cases of vaccinia and variola in man and in three species of animals the same parasite is met with. It differs in many particulars from the parasite of cancer."

The Necessity of National Research Laboratories.

Whilst during the last decade bacteriological research has riveted the attention of the scientific workers, there has been of late a reaction in favor of histological studies, particularly of the blood, which had been greatly neglected in consequence probably of the all absorbing interest in the apparently most promising branch of medicine, bacteriology. How much we are indebted to the revolutionizing discoveries of bacteriology every well-informed physician and layman knows. In discussing the usefulness and enormous advantages to the State by this new science Dr. Edward Long Fox has briefly recapitulated in his Presidential Address at the recent annual meeting of the British Medical Association, the results of research in this branch of science. He also draws attention, and every physician will agree with him, to the strange fact that the existence of Bacteriological Research Laboratories in as practical a country as Great Britain is left to the liberality of private individuals, the State having nothing to do with them except by applying the practical results obtained in these institutions by the labors of men connected with them. The same may be said of our country until it has established a national bureau of health in a similar sense as advocated by the New York Academy of Medicine. We trust to the practical sense of American statesmen and feel confident that the question of a hygienic supervision on the part of the State will be solved in a satisfactory manner, and that in our progressive country the necessary Research Laboratories will be provided for by the State at no distant date. The practical results of bacteriological research we extract from Dr. Fox's address, which has been published in the *British Medical Journal:*

"Already much is known about abscess, enteric fever, diphtheria, cholera, pneumonia, phthisis, tetanus and glanders. Already M. Pasteur's investigations have brought the death-rate from rabies to less than one per cent. Already, through the efforts of the same great experimentalist, millions of sheep are being inoculated against anthrax in various parts of the world. Already antiseptic surgery, the splendid result of the work of Sir Joseph Lister, may claim to have made possible hundreds of operations hitherto too dangerous to attempt, and to have saved thousands of lives. The whole course of medical treatment is being revolutionized by these studies. The coming generation of doctors will have their time taken up, even more largely than in past years, in rendering persons immune to the attacks of disease.

"It is known now that abscesses caused by staphylococci have a tendency to remain localized, whilst those from streptococci are often followed by metastatic abscesses, as in erysipelas, puerperal fever, and ulcerative endocarditis. We know now that the tubercle bacillus is found in chronic bone disease, and that if this bacillus exists alone the disease is a chronic one, whilst if the streptococcus pyogenes is present also the disease is more quickly fatal; that the suppurations accompanying tuberculosis are due, partly to the tubercle bacillus itself, or, rather, to the poisons resulting from the action of that bacillus, but partly also to other micro-organisms; that the bacillus diphtheriæ is found chiefly on the surface of the false membrane, and that the fatality of that disease depends on the poison secreted by the bacillus diphtheriæ, whilst the presence of streptococci renders the disease more grave, the increased virulence being due to the existence of both these organisms together. we find that acute pneumonia is caused by the pneumococcus of Talamon-Fraenkel, although often associated with the streptococcus pyogenes. The pneumococcus, too, may produce abscesses in patients free from pneumonia, as in purulent pleurisy, ulcerative endocarditis, and suppuration of the nasal fossæ. The fact that this microbe exists in the saliva of healthy people proves that these diseases have also a non-microbal element. Some condition of the sympathetic influencing the caliber of the blood vessels or some morbid condition of the accelerator nerves, or some inherited vulnerability, with all its possibilities, must probably be precedent factors.

"The typhoid bacillus is often accompanied by other micro-organisms, especially the streptococcus pyogenes or the staphylococcus aureus and albus. The study, too, of tetanus might, if time permitted, open up a further story of the mode of destruction of these micro-organisms, as the leucocytes refuse to take into their interior the tetanic bacillus when other micro-organisms are present at the same time."

MEDICAL SOCIETIES

The British Medical Association.

Sixty-Second Annual Meeting, Held at Bristol, July 31 to August 4, 1894.

We are indebted for this report to the *Medical Record.*

First Day, Tuesday, July 31.

The first general meeting of the sixty-second annual gathering of this Association was held on Tuesday morning, July 31, and was numerously attended. The retiring President, Dr. George Hare Philipson, of Newcastle, occupied the chair. Having submitted the minutes, which were confirmed, he said the signing of those minutes was his last official duty. In vacating the chair he should avail himself of the opportunity of again expressing to his hearers his sense of the honor they had conferred upon him. The remembrance would be one of the happiest recollections of his life that he had occupied the chair, if he might be allowed to say it, of the greatest medical association in the world. He thanked them for the confidence which had been reposed in him, and for the support he had received in carrying out the duties of his office. He begged to offer them his congratulations upon the meeting in Bristol, and especially upon the choice of the distinguished physician who was to follow him in the presidency. It was now his pleasure to invite Dr. Fox to assume the office as President, and to offer him in his year of office every good wish that he might have a prosperous and happy year.

Dr. Fox remarked it was needless to say how very much obliged he was to them for the cordial reception of Dr. Philipson's introduction. He appealed to the members to be brief and to the point in their speeches.

Dr. T. Bridgwater then moved a vote of thanks to Prof. Philipson, and that he be elected a vice-president of the Association. Dr. Holman seconded, and the resolution was carried with applause.

The report of the Council was then presented. It referred to the pleasure that was felt in accepting the invitation to hold the annual meeting at Bristol. It was remarked that the city of Bristol was the headquarters, with Bath, of one of the oldest and most active branches of the Association, and it was interesting to note that the first anniversary meeting of the Provincial Medical and Surgical Association, now the British Medical Association, was held in Bristol in 1834, under the presidency of Dr. Andrew Carrick. It was on record that two hundred attended out of a total of three hundred and sixteen. Since the annual meeting last year an important change had occurred in the Association by the admission of medical women as members, and upward of forty had already been elected. The financial results had been successful. The revenue had been £35,367 or £1,223 more than last year, while the expenditure was £30,126 or £1,021 more than last year, leaving a surplus or profit of £5,150, which has since been invested. At the end of December the total excess of assets over liabilities was £55,906. The number of members on the books last year was 14,703. During the year 988 new members had been enrolled, 203 had died, 398 had resigned, leaving on the books 15,090. Among those members whose decease during the past year the Council deeply regretted to report were: Sir Andrew Clark, President of the Royal College of Physicians, whose many virtues and generous nature caused him to be universally mourned by the profession; Dr. Brown-Sequard, Dr. George Graham, an ex-President of the Melbourne and Victoria Branch; Dr. James C. Philippo, the first President, and the founder of the Jamaica Branch—the first recognized colonial addition to the Association; and Surgeon-Major Parke, who received the Medal of Merit in 1890 for his brave conduct in the Stanley expedition.

Dr. J. Ward Cousins, President of the Council, moved the adoption of the report and financial statement. He said July 19, 1832, was a proud day for the medical profession, when their forefathers of the British Medical Association were assembled in the Worcester Infirmary to consider the proposal of Sir Charles Hastings in reference to the formation of the Provincial Medical Association. There were 140 present, and at the first annual meeting in Bristol, in 1833, there were 200 present. The next meeting held there was in 1863, and the Association then mustered 2,000 members. Now they came again with a roll of over 15,000, with an organization scattered all over the world, with Branches in India, Australia, New Zealand, Canada, South Africa and the Colonies; and he need not tell them a most interesting incident was the admission of 41 lady doctors. He wished all lady graduates in medicine were members, and he firmly believed they would be in course of time. Referring to the penal clauses of the Medical Acts, he said they were practically moonshine. They could not get convictions. The Parliamentary Committee were anxious to amend the Medical Acts, as there was no doubt at the present time they could drive a coach-and four through them. The Association desired to prevent the assumption of all sorts of letters which assumed medical titles. Then there was the University scheme, there was no doubt that required the supervision of the commitee. The law relating to the employment of married women in factories was of the utmost importance, because the health of the future population of the country was connected with it. Among other questions alluded to was the sale of poisons. That was a move in the right direction. He owned, for his own part, he should like to see some such system as they had in France, under which the whole prescription of the proprietary medicine was on the label. Then he mentioned the Scientific Grants Committee, one of the objects of which was to promote research. For three research scholarships the Council selected gentlemen for a term of years, and large sums had been granted for scientific research. Dr. Cousins stated the Inebriates Committee had been very active. As to the medical charities, they would always be abused until human nature was pulverized and made over again.

Surgeon-Major Ince then moved "That this meeting regrets the great and growing increase in the annual expenditure, as compared with the income of the Association; and suggests to the Council the expediency

of a careful and substantial reduction thereof in all departments, especially in the matter of the editorial and office expenses, which appear out of all proportion to the needs and nature of the *British Medical Journal*." The Treasurer replied to the point raised in relation to the finances and regretted the personal allusions, maintaining that the editor had raised the *Journal* to the position of one of the best medical periodicals in the world. The editor also replied, maintaining that he had always endeavored to be impartial. He congratulated Surgeon-Major Ince for contributing to the gayety of the meeting, and left the audience to judge whether he had given an example of the self-effacement he wished to apply to the editor.

Dr. Ince said his object had been served by the discussion and he would withdraw the resolution.

Mr. R. W. Doyne, representing the Oxford Branch, moved an amendment to the report regretting that it contained no reference to the question of Medical Aid Associations, which had done so much injury by sweating members of the profession. The amendment was seconded by Dr. Mead, who said that very cruel cases had come before him as Secretary of the Medical Protection Association.

Dr. Cousins then read the resolutions of the Oxford Branch: "That, in the opinion of this meeting, medical men ought not to meet in consultation medical officers of Medical Aid Associations (as defined by the committee of the General Medical Council), and that the Branch Committee should bring the matter before the Central Council, and that they (the Central Council) be urged to bring the matter before the annual meeting." He explained that the Council had resolved, without expressing any opinion, as they had no evidence before them, that it would be better for the Branch to bring the matter before this meeting.

Dr. Hardy moved the appointment of a committee to consider the question, a proposition which was accepted by Dr. Cousins, whereupon Mr. Doyne withdrew his amendment and the report of the Council was then agreed to. The report of the Parliamentary Bills Committee was then discussed for some time, and eventually its further consideration adjourned to the evening meeting.

The Sermon.

At three o'clock in the afternoon a special service was held in the Bristol Cathedral in connection with the Association's meeting. The Mayor and corporation attended in state, and they were followed up the nave in procession by several members of the Association Council. Seats in the nave were reserved for members and these, together with other portions of the cathedral, were filled. Canon Ainger, Master of the Temple, was the preacher, and selected as his subject "The healing by the Savior of the woman with the issue of blood"

This poor woman, he said, had suffered many years, and as St. Mark was careful to add, had endured even worse from the physicians who had tried their various experiments on her to cure her. And yet she was not discouraged, for at last she had encountered a grave and noble figure, moving to and fro among men, doing good in various ways. What she had seen and heard of this New Teacher gave her faith to believe that He was destined to be her healer, and that no other treatment would be of any avail. She mixed with the crowd who followed Jesus, saying, "If I may but touch the hem of His garment I shall be whole." Jesus' immediate reply was very marked, and not just what might have been expected. The woman's words and actions seemed to imply a purely mechanical view of the power of Christ; but our Lord at once pronounced it not to be superstition, but faith. Not something which degraded but that which ennobled. The superstitious view of the healing art had never died out, and never would. In these closing days of the nineteenth century much still existed, in spite of education, so-called, in spite of improved schools and school boards. Within the last year the most revolting forms had been exposed to public gaze. But not in exceptional and sensational shapes alone did it live in ordinary life. There was the credulity that believed in any pretender to the physician's art, that rushed to purchase any new medicine warranted to cure some disease that had baffled the researches of the most learned men for centuries. That state of things was always with us, a sign, perhaps, he said, of widespread intellectual deficiency. Yet in spite of education it throve amain. But in its deepest causes it was a moral more than an intellectual deficiency, this readiness to believe in sudden and unintelligible results rather than in the slow and patient tracking out of the secret of man's constitution. There was a love of, a craving for, magic deep-seated in the nature of us all. It was also found, in the art of testing men's souls, the same deep and subtle tendency existed, the marvellous loved for its own sake, or recognized only in what was manifest to the eye rather than in the slow, hidden workings of God's laws. This malady was incident to us all.

The preacher went on to say that Christ's whole life was an example for the physicians, and embodied the principles of his art and science, because it pointed along the road by which all advance in medicine, as in every other science, has been attained, by the faithful and earnest watching and studying of Nature's methods, not contesting and resisting them, but following, imitating, and tracking out her laws and submitting to them.

The preacher alluded to the conspicuous ornament the profession had lost since its last annual session, by the death of Sir Andrew Clark. He might not be ranked with the Hunters, the Jenners, the Pasteurs, but he did a great work in promoting men's happiness. The physician of the soul must work on the same lines as the physician of the body. It was narrated of Sir Andrew Clark that he once kindly admonished a lady patient by telling her she got in the way of her own happiness. In

conclusion, Canon Ainger said he should ill requite the trust they had laid on him were he to be guilty of even seeming in these words to instruct them in the ethics of their noble profession. He had touched upon that which was common to their professions, the unchangeble aims and methods of the true physician, whether of body or spirit. They and he might be alike laborers in the Lord's vineyard. Let them pray that their desire might be neither to make proselytes nor to gain patients, but to teach those who resorted to them for health the eternal significance and responsibility of life, to make them to desire and to have life, and to have it more abundantly. An offertory was then taken on behalf of the Royal Medical Benevolent College at Epsom.

Evening Session.

The adjourned general meeting was held in the evening, when the President, Dr. E. Long Fox, Consulting Physician to the Bristol Royal Infirmary, delivered his address. This, of course, took precedence of the various business matters and discussions which had been postponed from the morning sitting.

Presidential Address.

Dr. Long Fox reminded the meeting that thirty one years had elapsed since the Association last met in the historic city of Bristol, and mentioned a number of distinquished men who had taken part in it, most of whom had ceased from their labors, but a few were yet in our midst. Bristol had always been distinguished by its ecclesiastical associations and by its devotion to the crown, although it had its opinions as to the collection of "ship money." Its citizens had a sturdy independence of their own that often led to riot, but it was famous for its healthiness and the longevity of its inhabitants, many of whom were nonagenarians. Its schools were among the best and the healthiest in the kingdom, and its enterprise and prosperity might be gauged by the enormous increase of Clifton; its philanthropy was no less commendable, and the "higher interests of man" had a prominent position in its midst. Latimer and Ridley among its citizens paved the way for the establishment of a freer and purer faith.

In Plato's "Republic" it was laid down that in order to thoroughly understand and sympathize with sickness the physician should himself be afflicted with many ills, but that this was not necessary was proved by the attention to the sick poor and the criminal, which was part, and no unimportant part, of the duty of medical men, whose temperance, philanthropy and self-abnegation were well known. It was also the duty of the physician to give his attention to the hereditary tendency to crime, and to work against it and improve the unhappy subject of an evil heredity.

All branches of the medical profession had progressed, and even that of therapeutics was now conducted on healthy and scientific lines. Medical science was cosmopolitan, and advancing, *experientia docet.* How much was owing to the medical officers of the army and navy, who had opportunities of studying diseases in their outset of which we, at home, only saw the ultimate results.

What use was the medical profession to the State, which, after all, was composed of individuals, each of whom it was the aim of the physician to render temperate, strong and wise? We are a nation of rules, and the doctors teach sanitary science, in the advancement of which the medical officers of health are most important factors.

Jenner's discovery of vaccination laid the foundation of the prevailing germ theory of disease, and is his good work to be nullified by a crazy cry for the liberty of the subject? Bacteriology, antiseptic surgery (Listerism), and the differentiation of the microbes of diseases are of paramount importance. and it is marvellous, and not much to our credit, that in a country like ours the State holds aloof from their investigation. Much, however, has been done to diagnose and remedy the various diseases peculiar to different trades, and this partly owing to the co-operation of enlightened employers of labor, as well as to the researches of such men as Ferrier and Jackson. Investigations such as theirs have shown the difference as well as the connection between the several disorders that afflict humanity, and especially in the case of paralysis that proceeds from alcoholic excess and simulated locomotor ataxy. The experiments with thyroid extracts mark the beginning of a new era in scientific medicine.

Much study has been given to the various kinds of idiocy, and particularly to that form that tends to make the sufferer a criminal, who, instead of being punished by fine and imprisonment over and over again, should be taken care of and taught. It had been said that the population consisted of two classes only, the rogues who had been found out and the rogues who had not, but really there was but a very small number of those who were criminals by hereditary descent in the community.

Biological research had for its only object the benefit of mankind, and the hard work and self-abnegation of medical men in this direction were only typical of the same qualities in the nation of which they formed part.

How much the State owes to its poor-law medical officers whose utterly inadequate remuneration it should never have sanctioned.

There may not be many total abstainers in the ranks of the medical profession, but there are a vast number of advocates of temperance, not in the use of alcohol only, but in everything. Alcohol, however, has been proved to be not a stimulant, but a depressant.

Dr. Russell Reynolds, President of the Royal College of Physicians, proposed a vote of thanks to the President. He said that much as he admired the address, what struck him, perhaps, most forcibly was the admirable manner in which Dr. Lane Fox had omitted some topics as well as dilated upon others. Jenner had a predecessor in bacteriology, namely Harvey, and that

illustrious discoverer had been anticipated by a Scotch physician, Clarke.

Dr. White briefly seconded the resolution, which was carried by acclamation, and Dr. Fox replied, stating that he would not say much, as he had no voice left. He announced that the matters adjourned from the morning meeting would then be resumed and those who were not actively interested in them could leave, which the immense majority did forthwith, only a small proportion remaining to carry on the discussions.

The Medical Practice Act.

The President then called on Dr. Horder to resume the discussion on the Parliamentary Bills Committee.

Dr. Horder proposed as an amendment: "That the report of this committee referring to the proposed amendment of the Medical Acts be referred back to them for reconsideration." He said that in the opinion of many gentlemen of the British Medical Association those amendments were not good enough. What the profession needed was that men outside the profession who did not assume titles, but who practiced the medical and surgical professions without calling themselves doctors or licentiates of midwifery or surgery, or accoucheurs, or anything else, should be prevented from practicing. With regard to one of the exceptions set down by the committee, "a person shall not be guilty of an offense under this act if he knows that he is not ordinarily resident in the United Kingdom, and that he holds a qualification which entitles him to practice medicine or surgery in a British possession or foreign country, and if he do not represent himself to be registered under the Medical Acts"—under that exception they might be flooded with men holding bogus qualifications from all parts of the world. At present, they had ladies—it was doubtful whether they were entitled to the name—and gentlemen coming from America giving lectures in all towns to males and females which could only be mentioned as indecent to the last degree. They did everything they could to place themselves before the public, and then simply swindled the folks out of their hard-earned wages. If these exceptions to the 40th clause which now existed were maintained, the country might be flooded by such. If they were going to amend, why not make a good business of it at once, and insist that there should be reciprocity between the nations? No English doctor could practice in France without passing their required examinations, however high his degree, and it was not fair that that state of things should continue, seeing that doctors from other countries—France, Germany, Italy, and so forth—were able to come here and have their qualifications registered on the foreign register. Let them deal with the Medical Acts *in toto*, and not alone with the 1858 act.

Dr. Mead, in seconding the amendment, mentioned, with regard to the qualifications, a case of the Hindu oculists who were prosecuted at the Old Bailey. He said what was wanted was an act making a little clearer what was meant by obtaining money under false pretenses. This would put an end to the very dangerous system of quackery, which allowed men to extort from the ignorant sums of money. They wanted first a reform of the views of the English judges, and secondly, some plain statement of the law. They also required some amendment of the law as to recovery of costs.

Mr. Ernest Hart said that instead of the Parliamentary Bills Committee or himself being in any way desirous of settling the matter themselves, or on their own responsibility, the first thing they did was to lay the facts before their solicitor, and to ask him for his advice in making a new amendment clause. As that advice hardly went far enough, they took the benefit of the advice of the gentlemen who had been instrumental in framing the Dentists Acts, which was more recent, and with that help the clause was farther extended and amended.

Mr. George Brown said it was not their duty to employ solicitors to tell them what they required and what Parliament would pass, but to tell Parliament what they wanted.

A motion referring back the subject of amendment of the Medical Acts for reconsideration was then put and carried.

Registration of Midwives.

Dr. Lovell Drage said the question of midwives' registration was specially referred by the Parliamentary Bills Committee to that meeting. The subject was one that had had very little justice, legislation being introduced without preliminary inquiry and investigation. He had very great difficulty in ascertaining at all the reason upon which this demand for legislation was laid. It was said it would be a boon to the poorer community, but it was not very difficult to show that it could not achieve that object. He claimed in England the poor received considerable assistance from those who were the proper ones to give it—viz., the doctors—and he was anxious to know how the proposed measure could be in the interests of them, when it was shown by the returns that in every foreign country the death-rate was higher than in England.

Dr. Drage's time for speaking having expired he ended by moving "That this meeting disapproves of the principle of registration of midwives."

Dr. More Madden, in seconding the resolution, agreed with the contention of Dr. Drage.

Dr. Woodcock said there had been a good deal of misunderstanding as to the position of those who opposed registration. They were not for leaving things as they were, for nothing could be worse than the present state of things whereby women had been certificated, or had diplomas issued to them, indicating that they were worthy of the trust imposed upon them. In these days of higher education, it was simply a reproach to the legislature that they should be continued. The present midwife was as much out of date as the barber-surgeon and the cunning leech of the past, and he maintained that those who were to practice the ob-

stetric art should be as well trained in medicine and surgery as those practicing any other branch of the profession.

Dr. Boxall agreed that the present state was really disgraceful. How, then, could it be improved? Could they get rid of the present midwives? If that could be, he thought that would be the best solution, but was afraid that was impracticable. The question was a national one, affecting the community at large. The select committee of the House of Commons took evidence from all sides, and they reported very distinctly in favor of registration. It was desirable to get the midwives under control, but how could that be accomplished without registration? That was not likely to injure the profession. It would not create a lot of midwives, they did not want a single extra one, would rather free themselves entirely. He hoped by such legislation as seemed practicable the condition of the poor might be improved, and the interests of the profession would be duly preserved.

Mr. George Brown said the way in which the committee of the House of Commons conducted their inquiry showed clearly that their sympathy was entirely with those who approved the registration, and he was surprised that their report was not even more decidedly in favor of the immediate passing of a measure for the registration of Sairey Gamp. It was absurd for members of Parliament to go behind the experience of a man like Dr. Atthill and recommend the legislature to sanction the registration of women after three months' education.

After some further discussion the resolution was put and carried by a majority of thirty-four to thirteen, this being the total present, and the report as amended was then adopted.

[TO BE CONTINUED.]

ABSTRACTS

MEDICINE.

Diuretin and Diuretics.—The *Hospital* publishes a paper by Sir Benjamin Ward Richardson, M.D., F.R.S., in which he says (N. Y. *Med. Jour.*):

"My first observations were made, if I may so say, casually—that is, I began to prescribe in small, increasing, and large doses in cases where a diuretic was supposed to be required, without special reference to cause. The first few administrations gave color to the idea that diuretin possesses the general powers claimed for it; but I soon found great variability in regard to its action, and was led to the conclusion to which Dr. H. A. Hare had arrived, that the greatest care must be taken in observation, in order that other agencies affecting the excretion of urine should not interfere with the correctness of the observer. It also seemed to me that in some instances symptoms followed the administration of the drug which were of a general kind, such as headache, depression, a little fever, somnolency, or slight delirium, symptoms which were not actually dangerous or alarming in degree, but which were inconvenient and which called for cessation of the administration, at least temporarily.

"I never witnessed, however, the symptoms of vomiting and diarrhea which some have observed as after effects, and I considered that there was no direct evidence of cumulative action such as is observed from digitalis. Altogether, I looked upon diuretin as being a diuretic under some circumstances, but as one rather uncertain in its effects. In order, therefore, to watch those effects in a more systematic way, I noted them carefully in one or two particular cases where other diuretics had been prescribed.

"A man, sixty two years of age, came under my care in hospital on July 9, 1832. He weighed two hundred and ten pounds and stood six feet two inches in height. He had been a night watchman and had remained at his occupation almost up to the date of his admission. He complained of great pain in his right side, and, on careful examination, was found to have a considerable effusion in the right pleural cavity, with probably some ascites. It was observed that he suffered from shortness of breath, especially at night, and a day or two after admission eighty-eight fluidounces of a clear serous fluid was removed from the chest by aspiration. The removal gave immediate relief, but the fluid soon reaccumulated, and three weeks later a hundred and twenty-four ounces were drawn off. Fluid also was collecting in the abdomen, and, to be brief, between August 17, 1892, and May 20, 1893, when the patient was discharged to go to a home, he had been tapped seven times in the thorax, fourteen times in the abdomen, and twice—by Southey's tubes—in the lower limbs, by which operations six hundred and thirty-two ounces were drawn off from the chest, three thousand and eighty-nine ounces from the abdomen, and two hundred and seventy-two from the lower limbs—in all, twenty-four gallons, three quarts, one pint, and thirteen fluidounces. He was greatly relieved each time by the removal of fluid, and, as his heart was natural, our diagnosis was chronic nephritis, with cirrhosis or chronic contraction of the kidneys. There was never any febrile state, but, on the contrary, a slightly subnormal temperature as a rule. He took his food well, and up to his discharge was in good spirits.

"As may be expected we did our best in this case to promote action of the kidney. There was no regular appearance of albumin in the urine, but the amount of urine secreted was at all times diminished, often to an extreme degree, so that some days fourteen ounces was the most passed, during which the reaccumulation of fluid in the abdomen and chest was rapidly increased,

as if these cavities became supplementary receptacles for the water that ought to have passed off through its natural channel. In the course of general treatment the patient was, of course, judiciously limited as to the amount of watery fluids which he imbibed, and I think I may say every reasonable form of diuretic was administered to him without giving him any relief and without increasing in the least degree the quantity of the excretion. The case thus became one singularly good for testing the value of diuretin as a diuretic, and on March 17, 1893, diuretin was administered in five-grain doses, which were continued for three days without striking effect. The dose was then gradually increased to ten grains with such good action that after administration three times in the twenty-four hours seventy-five ounces of urine were discharged. Free diuresis was maintained for several days, when it gradually failed, with the appearance of symptoms which forbade the continuance of the drug. There was headache, considerable depression, undue somnolency, and a rise of temperature—symptoms which passed away within twenty-four hours on the discontinuance of the remedy. After the lapse of a few days, the amount of urine having become greatly diminished, I re-prescribed the diuretin in ten-grain doses without any definite action, but with recurrence of the objectionable general symptoms.

"In this instance diuretin failed to sustain free diuretic action and induced systemic symptoms similar to those which follow the administration of soda salicylate and sometimes salicylic acid, but without the deafness or noises in the head which occasionally follow the action of these drugs when they are carried to a toxic degree.

"The action of the diuretin in the case given was, I should assume, on the renal epithelium, leading in the end to obstruction, with an after effect on the nervous system produced either by the salt itself or by retention of urea, or a combination of both effects. That the action was not cumulative is shown by the fact that the symptoms quickly ceased when the substance causing them was withdrawn."

Treatment of Icterus Gravis.—Arnozan (*Arch. Clin. de Cordeaux; Brit. Med. Jour.*) ascribes the failure of therapeutics in cases of primary icterus gravis to ignorance of its pathology as well as to the gravity of the affection. The discovery of the microbic origin of this disease has indicated the antiseptic method of treatment, and of the success of this method he narrates the following case as an example: An apparently healthy man, aged 42, felt exhausted after a long walk in the rain on November 12, 1893. On November 20 he began to suffer from headache and shivering, and next day he vomited and became jaundiced. The jaundice increased, and on November 24 he appeared drowsy. On the following night he became delirious; liver apparently enlarged. On November 28 the delirium gave place to a condition of partial stupor, though the patient appeared to understand and answer when sharply addressed; apparent diminution in size of liver; cutaneous ecchymoses. On November 29 the liver seemed to have still further decreased in size; patient's general condition appeared better, except for the onset of broncho-pneumonia. Next day there was again nocturnal delirium, but not of so violent a character. On December 4 general condition better; the jaundice began to diminish, and the liver appeared of normal size. On December 14 the jaundice had practically disappeared; patient very feeble. The temperature was not much raised until the onset of the lung affection on November 29, and from that date the lung affection seemed to take the chief place in the illness. The delirium did not absolutely cease until the end of the third week. The excretion of urea was diminished, and at one time there was some albuminuria. Arnozan thinks that the lung affection was not primary, and that the proper diagnosis was icterus gravis, phosphorus poisoning being as far as possible excluded. The treatment employed was a milk diet with naphthol B, sulphate of quinine, and charcoal, each in daily doses of 1 gramme 20 centigrammes, divided into eight cachets. Morning and evening the patient received a subcutaneous injection of 1 centigramme of carbolic acid diluted in ½ c. c. of distilled water. As tonics and stimulants the patient had wine, tea, with rum, and, especially after the onset of the broncho-pneumonia, bark, and acetate of ammonia. As contraindications to the injections of carbolic acid are mentioned coma, excessive debility, hypothermia, and marked tendency to cutaneous hemorrhages. The medicines were gradually discontinued as the patient improved.

Artificial Variation of the Cholera Vibrio.—In a third memoir on cholera and vibrios (*Annales de l'Institut Pasteur*; *Brit. Med. Jour.*), Metchnikoff presents some valuable facts throwing light on this difficult and involved chapter of bacteriology, and promises, in a shortly forthcoming memoir, to deal with the hitherto undetermined factor which co-operates with the comma bacillus to produce a case of cholera in any given individual. In the present memoir he insists that neither the degree of virulence nor constancy of form can be insisted on in the diagnosis of the comma bacillus. In examination of cultures from cholera dejecta or infected water two types tend to present themselves: (1) Short curved bacilli, the comma of Koch; (2) Long fine filamentous bacilli, sometimes straight, sometimes spiral. Sanarelli's memoir establishes the first type as occurring in a case of cholera at Angers and in the water of St. Cloud and Gennevilliers; the second in the cholera of Courbevoie and water of Versailles. Generally it is the first type which is found in cholera dejecta, but in the Paris epidemic of 1889 and in the Courbevoie and Massowah cases the second prevailed. Ivanoff's anomalous bacillus isolated in Koch's laboratory from the dejecta of a typhoid patient belongs to the second type, and in the light of his researches is accepted by Metchnikoff as a genuine cholera bacillus. In spite of the persistence in the charac-

ter of these two types Metchnikoff maintains that they are not distinct varieties, and that one may be artificially produced from the other. First, if the long bacillus of Massowah or Courbevoie is injected into the peritoneum, or passed through the digestive tube, of a vaccinated guinea-pig, the subsequent cultures consist of the short stumpy form. Secondly, in old cultures of the short variety, long filaments are found which reassume the short form in fresh cultures on agar. These modifications are only temporary, but experiments on the Angers bacillus prove that permanent modifications may be obtained. The bacillus in question was obtained from an isolated, but typical and well-authenticated, case of Asiatic cholera occurring in Angers in 1889 in an immigrant from Nantes. It was of the short type, and of extraordinary virulence; $^1/_{100}$ of a culture of 17 hours on the inclined surface of a tube of agar 1.5 cm. in diameter and 12 cm. in length sufficed to kill a guinea-pig in twenty-four hours by peritoneal injection. Both the qualities of virulence and shape underwent permanent modification; 113 days later $\frac{1}{4}$ of a recent culture on agar was not mortal for a guinea pig, and 242 days from its isolation $\frac{3}{4}$ of a recent culture was equally powerless. Thus in eight months its virulence fell from an extraordinary degree to below the average. The form was more constant, but yielded to special methods of culture. Grown in peptonized water 1 per cent at 36° C., it became elongated as the fluid evaporated, and in an agar culture made on the twenty-fifth day mixed colonies were found of the two varieties; while after forty-three days at the same temperature agar cultures of the long variety exclusively were obtained. This variety was stable, and was perpetuated in culture made on widely different media. The involution forms of the two varieties were also different. Stumpy, rounded, and barrel-shaped forms predominated in the primitive race, long spirals in the artificial. The artificial characters also persisted after passage through a guinea-pig. These facts Metchnikoff holds as sufficient to prove the constancy of variations acquired under the influence of external conditions on one hand and the great variability of the cholera vibrio on the other. Another vibrio from a case of cholera at Brest was not so amenable to the conditions imposed, but an equal degree of polymorphinism was exhibited by one isolated from a case at Rome.

SURGERY.

Iodoform Oil in Tuberculous Joints.—De Vos (*Centlblt. f. Chirurg.; Am. Med.-Surg. Bull.*) recommends, after repeated experiments on the cadaver, the following as the points of election for injecting the various joints:

1. Shoulder.—The arm is adducted, the forearm being bent at the right angle across the abdomen, and the needle is introduced one centimeter behind and below the tip of the acromion process.

2. Elbow.—A point on the outer side of the olecranon, the needle going in between this process, the radial head and the capitellum humeri.

3. Wrist.—On the radial side at the dorsal edge of the styloid process; on the ulnar side at upper edge of the pisiform bone.

4. Hip.—A line is drawn from a point the breadth of the patient's thumb external to half way the distance from the anterior superior spine of the ilium to the pubic spine. From this point another is drawn to the outer edge of the trochanter major. At the junction of the outer and second fourths of this line the needle is introduced, provided the limb is extended, the foot vertical, and the trochanter in its normal relation to Nelaton's test line.

5. Knee.—On the angle between the upper edge of the tibia and the ligamentum patellæ.

6. Ankle.—Immediately in front of the tip of the external malleolus, the needle being pushed between the astragalus and the malleolus.

Injections are to be made very slowly, not more than 10 cm. in five minutes. As to the dose, one gramme of iodoform (in 10 per cent to 20 per cent emulsion) is sufficient for adults to begin with. This is repeated in a week if no reaction follows, and then every fourteen to twenty-one days, the iodine in the urine and persisting tender points being the guide.

In the after-treatment massage and passive motion are to be avoided, but moderate active movements are allowable. Several cases of intoxication were observed. Iodoform oil is considered far preferable to combinations of the drug with ether or glycerin. The duration of treatment varied from 9 to 325 days, the injections from one to twenty, and, as a result, 72 per cent were cured, the ultimate results being better than those following erasion or resection.

Flat Foot.—Dr. Bradford (Boston *Med. Jour.*) ascribes as the causes of this affection anything which may weaken the muscular strength of the legs, or the muscles which are attached to the feet. An increase of superincumbent weight beyond the muscular strength; lifting unusual loads; certain occupations; an important indirect cause is imperfect shoeing, especially lacing of the boot tightly around the ankle and some distance up the leg.

The examination of the foot should consist, first, of a sole imprint, best taken by stepping with bare foot on paper blackened over the flame of burning camphor; second, in a determination of the amount of eversion by viewing the leg and foot from behind; third, the recognition of the depth of the hollow of the foot, easily measured by a small caliper; and next, of the amount of inward and downward sag of the inner malleolus or inner surface of the scaphoid when weight is thrown upon the foot. It is also advisable to determine the amount of motion at the mediotarsal joint. In severe

cases of flat foot no inversion is possible, and the foot is rigidly held everted.

In growing children, flat-foot not infrequently corrects itself. In many instances after flat-foot has developed, no pain is caused, and no acute symptoms, for the reason that the muscles are sufficiently strong to prevent exaggerated strain falling upon the ligaments, although the bones are displaced. Ordinarily, however, the affection is one which tends to become aggravated and to increase, developing disturbances of the foot in old age, which cause much discomfort. Malformation in the shape of bones and disarrangement in the length of the ligaments follow faulty position.

The treatment of this affection necessarily varies according to the severity. In the lightest cases in children no treatment is necessary beyond the furnishing of proper shoes, and gymnastic exercises to develop the tibiales and muscles of the feet.

In cases with tendency toward flat foot, the sole should be made not simply straight on the inner edge, but with the inner edge forming a curve with the concavity inward; all tight lacing of the boots around and above the ankle should be avoided. In cases of children with pain in the feet and ankles, or where an increase of the deformity and osseous change is to be dreaded, support on the arch of the foot is needed. This is also true in adolescents, and in cases in adults where the arch of the foot is breaking down.

The treatment of flat-foot consists, in the severer cases, first, of means to restore the normal position of the foot, and second, in means to prevent the abnormal sinking of the foot under the superincumbered weight. The first of these can be carried out ordinarily by correcting the position of the foot with the hand and applying of a plaster of-Paris bandage. This bandage can be removed at the end of a week and a second one applied. Ordinarily in the course of three weeks, a sufficient flexibity of the foot will be attained to-render further treatment by fixation unnecessary. Correction can, if necessary, be done under an anesthetic; and in the severest cases osteotomy is rarely necessary.

The foot is then supported by a tempered steel sole bending but slightly under pressure, arched somewhat more than the sole of the foot when the patient stands. It should reach from the front of the portion of the os calcis which strikes the floor to a short distance behind the head of the second metatarsal. It should have arms which extend transversely across the foot from the level of the scaphoid to beyond the proximal end of the fifth metatarsal.

In the severest cases, however, something more than this is required, for the reason that no plate can be worn which exerts, in these cases, as much upward pressure as is desirable. A series of successively higher plates can be used, but the result can be more speedily obtained by also rising the sole on the inner side of the boots by lifts. In an adult the thickness should be in severe cases as much as three fourths to one inch on the inner side. When this is applied, the patient is obliged to walk on the outer edge of the foot and eversion is prevented. As the patient's symptoms improve the strained ligaments become rested, the weakened muscles strengthened, this sole can be removed and a metal plate substituted.

Treatment of Tubercular Arthritis by Artificial Venous Congestion.—Miller (*Edin. Med. Jour.*) reports favorably on Bier's congestion treatment of tuberculous affections of the extremities. This method consists in placing a broad elastic band around the affected limb, a few inches above the diseased part, firmly enough to produce venous congestion. Bier recommends that this congestion should be kept up continuously, and that the patients should be permitted to use the limb. The elastic band should be broad and a layer of lint or wool should be placed under it to protect the skin. The distal portion of the limb is supported by a bandage up to the affected part so that the congested area is limited to the immediate neighborhood of the disease. Miller states that this method is a useful one, and deserves further trial. He prefers intermittent to continuous compression, as the former method is attended with less risk, and is followed by equally good, if not better, results. It is now employed as part of his routine treatment for mild cases of strumous joint disease and skin affections of the extremities. The improvement effected by this treatment was more marked and striking in cases of skin disease than in those of joint disease, but the author acknowledges that in the latter case the joints seem to improve faster than they would have done had they been treated by mere rest.

Mickulicz is reported to have tried this method of Bier (*Sem. Med.*) in twelve cases with success in the majority of them. In a girl of 10 years, a tubercular arthritis of the knee of three years' duration, in spite of treatment by immobilization, intra-articular injections of iodoform and glycerin, opening of periarticular abscess and drainage and lavage of the joint, had steadily progressed, and the patient could not bear the slightest manipulation of the joint; there was considerable swelling and partial subluxation of the tibia backward. Then Bier's method was tried (January 28, 1893). The first few days the condition became worse, the swelling increased, the fungosities projecting from the sinus became livid and showed in places hemorrhagic infiltration. At the end of ten days the fungosities were covered by a very adherent fibrinous exudate and reminded one of the necrosis of tubercular tissue after inoculations of Koch's lymph. There was no inflammatory reaction, no fever. After a fortnight of this treatment there was a manifest improvement in the knee. The fungosities cleared up and sank away. The secretion became more purulent, the swelling and pain rapidly subsided. At the end of three months the wound was healed. There was no swelling nor pain. The child was last seen in January, 1894. The cure was maintained. In most of the other cases so treated there were almost

equally good results. In three cases it had failed, however, or produced an injurious effect. Only by trial in each case can we determine its value. In a few days, in cases which will be improved by this treatment, the pain will be greatly modified. The appearance of the joint improves more slowly. If the pain increases, however, the treatment should not be continued.

At first only a moderate compression is applied, and for a few hours, then the duration and degree of the compression are increased gradually, being regulated by the local reaction and the patient's sensations. The point of compression being changed usually to avoid atrophy.

After a week or two in favorable cases, local application of iodoform should be made. This treatment increases the resistance of the tissues to the tubercle bacilli in some unknown way, by the venous hyperemia, or the accumulation of serum in the joints, or, perhaps, by a sort of auto-tuberculinization.

In one case, Mickulicz, by repeated microscopical examinations of the fungosities, found that these bacilli became less and less numerous and finally disappeared. —*Sem. Med.; Am. Med. Surg. Bull.*

Prostatectomy.—In order to minimize the danger or obviate the unfortunate results of this operation, Mr. James H. Nichols (*Lancet;* New York *Med. Jour.*) directs attention to the following points:

1. Prevention or lessening of hemorrhage.
2. Prevention or lessening of pyemic absorption.
3. Deliberate, complete, or at least pretty extensive removal of the prostatic tissue.
4. Avoidance of extensive tearing out of portions of the bladder neck and deep urethra.

The technique of the operation, which he has done four times, is briefly as follows:

A suprapubic cystotomy is performed; no rectal bag is employed for this on account of subsequent proceedings. All bleeding points in the parietal incision are secured and the wound dusted with iodoform before the bladder is opened. The incision in the bladder must be a free one, and the walls of the viscus are secured to the skin by four sutures. The bladder is then carefully and repeatedly douched with a carbolic acid solution (1 to 200), the phosphatic concretions on the walls being removed with a lithotomy scoop. The viscus is then partially filled with the carbolic solution, and the patient tied up in the lithotomy position. The second part of the operation consists in the removal of the prostate through a modified mediam lithotomy wound. An ordinary bougie or sound is passed and given to an assistant. The left forefinger in the rectum, an incision is made in the perineal rhaphe and gradually deepened till the apex of the prostate is reached, but without penetrating the urethra or bladder. The rectum is carefully separated from the posterior surface of the prostate and a vertical incision is then made through the posterior and inferior part of the prostate capsule. The capsule is then gradually shed off the gland to either side by means of a blunt instrument like a periosteal elevator, the assistant in the meantime pressing the prostate down in the perineal wound with his fingers introduced into the bladder through the suprapubic opening. (If sufficient room for this isolating of the prostate has not been afforded by the median perineal wound, it may be obtained by supplementing the median incision by a lateral one somewhat on the lines of Dittel's, and curving outword and backward from the posterior end of the median cut to a point between the anus and the posterior end of the ischial tuberosity, nearer the former than the latter. This may be done on one or both sides.) All bleeding points being secured, the surgeon, after carefully washing his left index finger in the carbolic solution, puts two fingers of the left hand into the bladder from the suprapubic wound and, pressing the prostate (now pretty freely movable) down into the perineal wound, removes by the fingers of the right hand in the perineum the entire prostate, or as much of it as he deems necessary to relieve the neck of the bladder from all pressure and bring it down to a level with the prostatic pouch in the base of the bladder, judging the amount to be removed by manipulation of the parts between the fingers of the two hands. Should the prostatic tissue be unusually tough the fingers may be supplemented by a blunt instrument or Volkmann's spoon carefully used. During the entire operation neither the urethra nor bladder is opened further than is involved in the suprapubic incision.

The after-treatment consists in the antiseptic treatment of the wounds, draining the bladder through a catheter coude introduced *per urethram* and fastened in, and frequent douching of the viscus with mild carbolic solutions. The wounds are allowed to heal by granulation. In case of intravesical projection of the middle lobe, Mr. Nichols says, this should be neglected for the time being and twisted off eight or ten days later through the suprapubic opening, the mucous membrane having been first reflected from the gland. The advantage of the operation consists chiefly in the fact that the operated parts are not subjected to the septic contents of the inflamed bladder, and the ability of the patient to sit up very early, owing to the absence of a perineal tube.

Cancer of the Rectum.—Jones (*Medical Chronicle*) after a careful review of the diagnosis of cancers of the rectum, states that operations have for their aim either the relief of urgent symptoms or radical cure by complete removal of the diseased mass. As a relief measure colotomy affords the best prospect, not only lessening pain, but also checking the progress of the disease and placing the patient in a state of comparative comfort. This operation should be practiced before the disease has made serious inroads upon the patient's strength. Linear proctotomy and free scooping away of the diseased mass are methods which have little to recommend them. Removal of the cancerous growth by free use of a scoop or the fingers should per-

haps be adopted when other means are unavailable. From recorded cases it appears that, when the diseased masses are thoroughly broken up and taken away, the loss of blood is not conspicuous. In some cases partial cicatrization has taken place. Before operating for radical cure an examination under ether should be made to determine the extent of the disease and the state of the rectum in regard to mobility in the pelvic space. We must also have regard to the general condition of the patient with respect to strength and nutrition, age must be taken into account, and especially the presence of infiltration of the peri-rectal tissues. Secondary deposits in the liver or elsewhere must be searched for. The immediate risk of the operation is not great. Czerny operated in twenty-five cases with only one death. Causes of death in the majority of cases have probably been cellulitis and peritonitis.

Kraske's method—*i. e.*, removal of the coccyx and the left lower part of the sacrum for the obtaining of sufficient room—is to be commended, the healthy bowel being brought down and fixed in its entire circumference to the skin. The condition of the patient following this operation compares very favorably with that obtained by colotomy. In most instances the patient recovers sufficiently to enjoy life and even to resume active work, and it is possible that the disease may not show itself locally, but return in some internal part where its ravages are less dreadful to witness.

In Cripps' cases nine out of twenty-three recurred after periods varying from four months to two years. These remained well for intervals which varied from two to four years. It is well known that cancer of the rectum remains confined to the gut for a long time, and if the case is taken in hand sufficiently early the chances for successful extirpation are encouraging. Once the disease has traveled beyond the gut, the chances for doing good by removal are of the remotest kind.

Removal of the Gasserian Ganglion.—Keen (reprint from the "Transactions of the Philadelphia County Medical Society") reports a successful case of removal of the Gasserian ganglion as the last of fourteen operations—one being excision of the whole of the right upper jaw—in thirteen years for tic douloureux. The granglion was removed by the Hartley-Krause operation, a flap of scalp and bone being made in the temporal region and the dura detached from the middle fossa of the cranium. The operation was a very difficult and serious one, as the patient proved to be a "bleeder." At the first attempt to reach the ganglion the flow of blood was so profuse that it was found necessary to plug the deep wound with iodoform gauze, and to postpone the final stage of removing the ganglion for three days. The plug of gauze passed between the dura and the bone, though a very large one, covering when unrolled 222 square inches, caused no bad symptoms save slowing of the respiration and slight aphasia. Four days after the second operation the patient was out of bed with the wound practically healed. The operation was performed in October, 1893. Mitchell, in an appended report on this case, states that the patient, when last seen in the early part of 1894, reported that there had been no return of pain in the face. Keen has collected forty cases of removal of the ganglion, in some by Rose's operation, in others by the Hartley-Krause method. Of these cases six were fatal, and thirty-four may be regarded as successful, as in none of them, excepting an early case of Rose's, has any return of the pain been reported. There is very little risk, it is thought, of loss of an eye and Keen does not take the precaution to protect this organ by preliminary temporary suturing of the lids. The author regards these results as very encouraging, and holds that if removal of the ganglion should in time prove to be a cure in cases of tic douloureux, it should be the first operation to be recommended for severe cases, provided that time and experience enable surgeons to diminish the relatively large mortality. If, however, the pain should return in any considerable proportion of the cases, then, he states, as this is the final operation, he would advise his patients hereafter to have repeated peripheral operations done, gradually approaching the center, and the removal of the ganglion, should the pain return again and again, should be the last operation. In other words, if removal of the ganglion proves to be an unqualified success, and its dangers are lessened, surgeons should begin with this operation, and not waste time with peripheral methods. If, on the other hand, like the peripheral operations, it gives only temporary relief, then surgeons should begin at the periphery and work towards the ganglion by as slow steps as it is possible to take.

OBSTETRICS AND GYNECOLOGY.

Post-Partum Hemorrhage.—Fehling (*Deut. Med. Woch.; Brit. Med. Jour.*) has published a paper on the pathology and treatment of hemorrhage occurring directly after birth. Authorities, basing their opinion on the statistics of lying-in hospitals, are divided as to the relative frequency of bleeding, under the above circumstances, from uterine inertia, and of bleeding from lacerations. In fact, diagnosis is not always easy. The two factors may exist together. Sometimes hemorrhage from a laceration may be confounded with uterine atony, as in sudden emptying of the uterus in spontaneous evolution, in hydramnion and in placenta previa. In these complications the blood may gush out suddenly. The distinction remains doubtful till the bleeding is checked by massage of the uterus. Free hemorrhage, as though a laceration existed, is seen after the expulsion of a four to six months' ovum. After Cesarean section, where there can be no question of a lacerated cervix, hemorrhages are known which may place the patient in great peril, yet are stopped by the tampon, friction of the fundus and other measures employed in

cases of uterine inertia. In every case of post-partum hemorrhage the obstetrician should do his best to diagnose the nature of the bleeding. When a case is doubtful, and the uterus has been made to contract by the usual rubbing, the best time to distinguish is when a contraction has just ceased. In atony the collected blood is suddenly driven out of the uterus; but, when there is a laceration, blood spurts or oozes out continuously. Vulvar and vaginal wounds are the most usual injuries after spontaneous and forceps labors. In turning and in breech cases lacerations of the cervix are more common. The search for such injuries should always be made; the cervix must be drawn down and its lips parted; under these circumstances, however, dilated vessels may begin to bleed. Hence laceration of the cervix has been reported more frequently than truth can sanction. Vulvar and vaginal wounds should be sewn up with catgut; but, when skilled assistance is not at hand, the obstetrician should not attempt to repair a torn cervix. It is sufficient to apply for a time an iodoform-gauze tampon.

Ventro-Fixation of the Uterus.—After reporting some cases of ventro-fixation, Sinclair (*Medical Chronicle*), concludes a thorough paper upon this subject as follows:

1. The various published series of cases show that the element of danger is almost *nil*. The present writer's series supports this opinion.

2. The operation, efficiently performed, is a permanent cure of the troubles arising from chronic retroflexion of the uterus, complicated with adhesions or inflammatory affections of the tubes and ovaries.

3. When pregnancy occurs after the operation no distress is experienced by the patient and no unusual phenomena are observable during pregnancy, parturition or the puerperal state.

4. Contrary to what might be expected, bladder-troubles are quite the exception after the operation, and these discomforts are almost certainly avoidable by care in operating.

5. In a certain proportion of the cases ventral hernia occurs at the site of the cicatrix. How this is to be prevented is one of the problems of the future.

6. After making full allowance for the element of risk and the incidental drawbacks, the operation of ventro-fixation is not only justifiable, but it is indicated in a certain class of cases of retroflexion of the uterus with complications.

Midwifery and Diseases of Women.—Leonte (*Revue de Chirurgie; Brit. Med. Jour.*) has successfully performed this operation twenty-six times in Bucharest. For a few days before the operation the vagina is washed out with a sublimate lotion and the uterine cavity with carbolic, a tampon of iodoform gauze being finally applied to the vagina. The fibroid uterus being drawn out of the abdomen the edges of the abdominal wound are closed above it. A pressure forceps is applied to the broad ligament on each side, externally to the ovary. Then an anterior flap is dissected off the uterus, running from one to the opposite broad ligament, about an inch above the vaginal attachment of the uterus. A posterior flap is then dissected as its fellow, but, if this be impossible, owing to the relations with the rectum, the anterior flap will serve to cover the uterine stump. Each broad ligament is now secured with interlocking silk ligatures. A large pressure forceps must be placed along the uterine attachment of the broad ligament to prevent hemorrhage from the tumor, and then the ligament is divided between the forceps and the ligature. When both ligaments are thus divided there is a pedicle of uterine tissue. A stout blunt needle armed with double thick silk is passed through this pedicle about a quarter of an inch above the vaginal insertion of the pedicle; the silks are then crossed and their ends tied on each side. The pedicle is divided above the ligature, being cut obliquely, anteriorly and posteriorly. The uterine canal lies at the bottom of this bivalve cone. The mucosa is scraped away or excised, and cauterized with a ten per cent chloride of zinc solution. The raw surfaces of the flaps are united by a continuous catgut suture. The edges of the serous surfaces of the flaps are carefully sewn over the stump. The raw surfaces of the broad ligaments are also closed by suture. Then the abdominal wound is closed. An iodoform gauze tampon is placed in the vagina. Leonte has never drained in any of the twenty-six cases. The appendages are always removed.

NOTES AND ITEMS

Opium Smokers in New York.—There are about ten thousand opium smokers in New York, according to the testimony of one of the witnesses before the Lexow Committee.

Dr. Galezowski, the famous Paris oculist, will receive a fee of $25,000 for his visit to Persia to attend a son of the Shah. Larger sums than this have been declined by English practitioners. The late Sir Morel Mackenzie refused $30,000 to go on a professional trip to New York, and Anderson Critchett did not accept $35,000 to visit India to treat one of the native princes.

Prescription-Writing.—A famous physician once made the remark that he would rather prescribe a mixture that acted well than one that looked and tasted good. This sentiment has been approved by many; and yet it is as important, if not more so, in the majority of cases, that the patient should be relieved of his malady pleasantly as well as safely and quickly. When we think of the danseous compounds which delicate women and children have been compelled to swallow, it is a

disgrace for a medical practitioner with the whole range of materia medica before him not to be able to write a prescription for a solution which both looks and acts well. The fault has been in the comparatively little attention devoted by students to chemistry and pharmacy, than which few branches of medical science are of more importance to the practical and successful physician.—*Medical Record.*

Dr. Wm. Alexander Frazier, of Staunton, Va., died August 21, of heart failure. Dr. Frazier was until two years since a resident of St. Louis, where for many years he was in charge of the St. Louis Eye and Ear Hospital. He enjoyed a reputation for deep erudition and culture, and was considered prominent in his specialty. He had a large circle of acquaintances in this city, who will regret to hear of his death, occurring, as it did, when he had just attained to the prominence which was his by virtue of deep study and intense application.

Error in Recompense.—A woman of forty-nine came to the dispensary, bringing with her a child of five years. This woman was a widow at nineteen, with five children. Since then she has had twenty other children at term and two miscarriages. She never had twins. Married three times. Out of twenty-five children, nineteen were boys, who all died young. The eldest of the five girls remaining was twenty eight and pregnant six months. The woman received a medal from the Irbonne Institute, but being in need she wished to exchange the honorary for a pecuniary recompense.—*Le Prog. Med*

Protection of Boys from Assault.—Mr. Tait insists that the criminal law should be amended in order to protect boys against being induced by adult women to have sexual intercourse with them. According to Mr. Tait this is by no means a rare offense; "relatively," he says, "I am not sure if it is not as common as its converse." There is no doubt that, while every protection is afforded to the female sex by the act in question, the male sex are placed at a great disadvantage, not only in the manner pointed out by Mr. Tait, but also in the power which women possess of bringing false charges against men.—N. Y. *Med. Record.*

A Lunatic's Relatives.—The *Hospital* (N. Y. *Med. Jour.*) publishes an article of which the following is the substance: Among the troubles and anxieties of an asylum doctor's life the friends of his patients may certainly be reckoned. They are of all varieties, but a considerable number are more than kin, in that they also are not wholly free from the taint of madness, and often decidedly less than kind. A husband, who brought his wife to the Morningside Asylum, Edinburgh, was obliging enough to give a hint as to the proper mode of treating the patient. He had been in the habit of thrashing her twice a week, and thought the discipline should be continued. The supersensitive relatives—the opposite of this kind husband—are, however, almost as great a nuisance. They come to the asylum weeping and trembling, bewailing to the lunatic himself his sad condition, until they upset his composure, and cause no little extra trouble to the attendants, who are sufficiently hard worked already. Still, even these are less undesirable visitants than the drunken father who, as we are informed by Dr. Elkins, of the Edinburgh Asylum, finding his insane daughter uninterested in his conversation, promptly gave her a black eye. One would be inclined to say, in the face of such instances, that a lunatic was better without visitors; but this is not so. Very few patients completely lose their own identity; a considerable number know not only who they are, but where they are, and the knowledge is a grief and a humiliation to them. These feelings are aggravated by the notion that those who once loved them, who were once their companions, have deserted them. And often enough they seem to be forgotten. Their kinsfolk bring them to the asylum, and then, glad to be rid of the incubus, never return to ask how they fare. Oftenest is this the case, sad to say, with husbands and wives; the tie of wedlock, close and permanent as it is, seems to snap at the asylum gates; and children are not too devoted to feeble-minded parents, while mothers and maiden aunts seem to be the most loyal to their insane relatives. Doubtless the visits of these devoted women are not an unmixed benefit; they are liable to unreasonable emotion, they put leading questions to the patients to make them complain, and accept their answers as undoubted truth. But, at their worst, they do less harm than those who make the asylum as complete a severance as the grave.

Treatment of Pruritus Ani.—Dr. A. Berger states that the following method immediately relieves the itching and causes a rapid disappearance of the eczema of the perineum and scrotum, which frequently exists in these cases: A cotton pledget, about two or three centimeters ($\frac{3}{4}$ to $1\frac{1}{4}$ inch) in length and steeped in a 2 per cent solution of hypochlorate of lime, is introduced into the anus. This pledget is allowed to remain until there is a slightly smarting sensation, when it is immediately withdrawn and the anal region washed with the same solution, taking care not to wipe it off afterwards.—*International Jour. of Surg.*

Music and Longevity—Testimonial of an Octogenarian.—Dr. P. H. Van Der Weyde writes as follows in the *Scientific American*: My personal experience induces me openly to endorse what so ably and forcibly was expressed by Dr. Ephraim Cutter in the *Scientific American* supplement for September 16 and to offer myself as an example of the benign influence of the study and practice of music, and the great advantages I have derived therefrom.

Notwithstanding I will soon pass my eighty-first birthday, my mind and body are still in good condition; which I attribute to the fact that I have a variety of

occupations, which induces me to give exercise to different parts of my brain as well as of my body, without overworking and exhausting one part.

I have collected some statistics about men occupied exclusively in one kind of mechanical labor, and found that they die before the average of the life of such as have to perform labor which does not require the continuous exercise of the same parts of the body, but who are occupied in labor which allows the exercise of almost all parts; so, for instance, men whose main occupation is the use of the sledge hammer are very short-lived, and several crippled old men have testified to me that they were overworked in one certain pursuit without variation.

It is the same with the mind as it is with the body, and even more so; men occupied year after year with housekeeping, or being cashiers, or teaching one exclusive branch of knowledge, or giving music lessons to beginners, or clergymen preaching orthodox sermons or praying according to the same system, break down early. Hence, broken-down clergymen abound. When the mind is free to rove wherever reason calls it, a better mental health results than is the case of a mind trammeled by theological dogmas.

But, as in the usual course of life men have frequently monotonous daily duties to perform which wear out their mind and body, it may be a blessing to them when they can indulge in another occupation which is utterly different from any daily routine; and such an occupation is music, which has the double advantage, that it can be enjoyed also by those who have not been musically educated, but whose tastes run in such a direction as to be able to enjoy good music.

This art has the great advantage to be eminently progressive, and causes the listener as well as the performer to satisfy the yearning of human nature for a higher and higher level of enjoyment, which, thanks to the successive labors of men of inventive genius, has been provided for, by what may be called a musical literature, which is as rich in eminent names as is the literature of any nation, either in prose or in poetry, while it has the enormous advantage not to be confined to any special language, but is written in the universal language of emotions, which the refined individuals of all nations understand and appreciate.

Beaumont Medical College.—The following letter addressed to the editor of the *Journal of the American Medical Association* explains itself.

St. Louis, Mo., July 10, 1894.

To the Editor.—Dr. W. B. Outen, Dean, requests me to say "that some months ago there appeared what purported to be an unofficial announcement from St. Louis that the Beaumont Hospital Medical College was about to close its doors. Had this statement come to my knowledge before now, I should certainly have asked for its immediate correction, for it had no foundation in fact and must have been promulgated by some one who intended that the Beaumont Medical College should be injured by the publication. Far from closing its doors our school is in a most flourishing condition. We have been so fortunate as to have secured from those interested in higher medical education such financial assistance as practically to place the school on a firm financial basis, and to insure its perpetuity. We have never been the competitors of those who heralded their schools and incidentally their personality to the medical public. We have gone along the even tenor of our way doing conscientious and, we believe, good work in the cause of medical education, and we feel aggrieved to think that your *Journal* would publish, without proper inquiry, a statement which is calculated to do us an injury, and we respectfully request that you give to this denial as much prominence as was given the original statement."

Revocation of License.

The Secretary of the State Board of Health, of Missouri, has been instructed at our last meeting at Kansas City, to furnish to your *Journal* the proceedings, more especially that portion of them which relate to the revocation of the license to practice in our State, of Dr. J. P. Henderson, a resident of Chicago, who was an itinerant for the last six months in Missouri. Dr. Henderson was a regular graduate and a licentiate of the Illinois State Board of Health, and is President of the Illinois State Institute of Medicine and Surgery. He registered in this State upon a diploma and letters of recommendation from medical men of Chicago and then spread his advertisements broadcast. Physicians of Nevada, Vernon County, Missouri, called the attention of the Board to his advertisements which were so worded as to mislead the public. After a hearing, the Board unanimously decided to revoke his license for unprofessional conduct. Our State has too long been the refuge of just such fellows, and the Board proposes in future to enforce the law, and to protect our people.

(Signed) F. J. Lutz, M.D.,
President State Board of Health, of Missouri.

VETERINARY

The many readers of the Medical Review are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[Ed.

Comparative Dental Pathology.

Comparative dental pathology at this particular stage of civilization is very interesting and alarming. We well know that equine subjects are not particularly lia-

ble to premature decay of the teeth. Although in aged animals the molars become somewhat irregular in position and length, it is very unusual to find actual decay of their structure unless from some accident. Sporting dogs, and those in a wild state, and in fact all animals in a natural condition are also not subject to decay of their teeth. Sheep and oxen are not subject to premature tooth disease. Man in his wild or uncivilized state was not, and is not, troubled much with toothache and premature dental decay.

Having thus briefly examined the matter in animals existing in a natural condition, let us look at them as they are to be seen living under the peculiar circumstances of civilization. Pet dogs are excessively subject to trouble with their teeth, and although my practice has been mostly equine, yet I have seen many mouths of dogs in the most horrid state. All practitioners of canine surgery well know the characteristic odor from the mouths of pet dogs. They also know the stinking and horrible condition of the teeth and gums. Strange to say I have found cats are very little liable to diseased condition of their mouths and teeth. Monkeys I know little of in this direction, although I had one as a companion for some length of time, and a most amusing fellow he was.

We all know that human beings are, in this generation, alarmingly subject to diseased teeth. And it seems that the more artificial and unnatural the state, so the trouble increases, the people of the United States to wit. It is a recognized fact that in this country rich and prosperous people are more afflicted with decayed teeth than the poorer fellows. To me it seems that indigestion is one of the principal causes. Gout produces a peculiar acid state of the saliva which acts upon the enamel. In this disease the gums recede very much. Dentists state that the average jaw is much smaller than formerly, due no doubt to the fact that our food being cooked and prepared there is no necessity for so much mastication—all organs wasting in proportion to their non-use. The immature and undeveloped state of the "wisdom" teeth being a good proof, and this surely speaks volumes. Women are quite as subject to dental troubles as men. It seems to me that, due to the abnormally acid saliva, a crack appears on the enamel of a particular tooth, and then "mold" or vegetation collects on this crack (tartar) which ultimately destroys the whole crown of the tooth, much in the same way that a mechanical injury may happen to a stone or a rock, on a ruin or elsewhere, and vegetation makes its appearance, which also assists in its decay. I do not intend to wander from the subject, but it seems interesting that cancer and premature tooth diseases are perhaps more on the increase than any other ailments. Although I am a veterinary practitioner I may be allowed to say, perhaps, that I think men suffering from cancer, hereditarily, are generally the subjects of dental disease, I mean to say they generally are found occurring together.

Brown bread is certainly a more natural food than white. Feeding bottles instead of the natural mother's milk have a very great deal to answer for. For instance calves that are reared artificially. What a vast difference there is between them and those allowed to take nourishment from their mother till the cow itself prevents them. Even where the mother is diseased hereditarily, I believe the child would be better for the natural food. Have we any analogy for the "wisdom" teeth in the lower animals? Forgive this mixed and muddled epistle, as there are many and various calls upon me. In conclusion, I believe that the time will come when stronger moral influences will be brought to bear upon men and women to induce only the mentally and physically fit to reproduce their species.—Observer, in *The Veterinary Record.*

Toxic Effects of Cocaine as a Local Anesthetic.

A large water-spaniel bitch, ten years old, weighing about seventy-five pounds, was brought to the hospital April 24, for the removal of a large sarcoma of the mammæ. Patient otherwise seemed to be in perfect health. All precaution being taken as to the age of the animal a 4% solution of freshly prepared cocaine was hypodermically injected at six different points, patient receiving about 40 minims or one and three-fifths grains of the drug itself. After ten minutes had elapsed the operation was commenced and the tumor removed, accompanied by considerable hemorrhage, nothing abnormal being noticed but a slight dilatation of the pupil. The parts were antiseptically washed and dressed and patient placed on her feet, but immediately fell to the floor as if exhausted. When urged to move she staggered to her feet and moved around the room tossing her head first to one side then the other and crossing one foreleg over the other. This continued for about ten minutes and the animal fell to the floor in tetanic twitching of muscles and champing of teeth; inhalations of ammonia were given but to no avail and death followed. Post-mortem revelated nothing but a very flabby condition of the heart with hypertrophy of its walls.—W. W. Yard, D.V.S, House-Surgeon, in *American Veterinary Review.*

Neuralgia Following Division of Nerves.

Witzel (*Centralbl. f Chir*, No. 23, 1894), holds that neuralgia after amputation is not caused, as is generally supposed, by the formation of neuromata at the ends of the divided nerves. He states that if such were the case it would be necessary to lay aside the amputating knife. The neuralgic pains, he believes, are due to adhesion of the neuromatous swelling to the end of a bone. In order that its functions may be properly performed a nerve should move freely in its sheath. The structural elements which serve the special function of a nerve are during life extremely delicate and almost fluid. The ordinary movements, therefore, of an adja-

cent joint would interfere with the structure and functions of the nerves of a limb if these nerves had no longer free range of movement in the direction of their long axes. In two cases of neuralgia after amputation in which Witzel had opportunities of dissecting the stumps he found thick neuromatous swellings at the ends of the divided nerves, which were bound down by tough cicatrical tissue to the ends of the bones. It is evident that during movements of the stump at the nearest joint the fixed nerves must be stretched, those on the flexion side during extension and those on the extension side during flexion. In neuralgia caused by confinement of a nerve in a mass of callus the pain, it is held, is due to the prevention of the nerve's movement and not to its compression. As a preventive treatment Witzel recommends that in every amputation as much attention should be paid to the nerves as to the large arteries, and that the former should be pulled away from the flaps and divided high up. Attention should be particularly directed to this precaution in cases of amputation at the ankle and shoulder.— *Veterinary Record.*

EXCURSION TO WASHINGTON, D. C.—On account of the Knights of Pythias Conclave at Washington, D. C., the Baltimore & Ohio Southwestern R'y offers a rate of one fare for the round trip from all points on its lines. Tickets on sale August 22d to 26th, good returning until September 15th. Splendid opportunity to visit the National Capital at low rate. For particulars apply to any Agent Baltimore & Ohio Southwestern R'y, or address, T. C. WELLS, Dist. Passenger Agent, 105 N. Broadway, St. Louis, Mo.

MESSRS. WARNER & CO.—

Gentlemen—I take great pleasure in reporting to you my experience in regard to the use of your Ingluvin. I have prescribed it in various combinations and alone, or simply with an excipient, in gastric troubles, especially that form of dyspepsia met with among the people of large cities, and can safely recommend it as entirely reliable in its results. The small dose makes it a boon to those who treat diseases of children induced by the unnatural modes of feeding the little ones, for the use of Ingluvin will at once dissipate the fears of the physician as to the result.

P. H. CRONIN, M.D., St. Louis.

CLEVELAND, OHIO, April 17, 1893.

THE S. B. MEDICINE CO.—

Gentlemen—I received the sample of Caffacemon and have used the same with gratifying results. Find enclosed P. O. for $1.20. Send 200 more. I shall use them extensively in my practice. T. E. SHEPARDSON, M.D.

SECURITY AGAINST IMPOSITION.—This heading is suggested by and is particularly applicable to the new advertisement of the Antikamnia Chemical Company, which appears in this issue. Antikamnia, while not suffering anything like other standard preparations from substitution, has still found it in some few instances. To the end, therefore, that there may not be even the breath of suspicion against Antikamnia, as well as to give every doctor the fullest confidence, the Company has gone to the expense of withdrawing all the old stock from the market and replacing it with new. In the new form the drug is identically the same chemically and medicinally as it always has been, but every tablet bears imprinted upon it a monogram. (See advertisement). Every package of Powder or Tablets is so wrapped and sealed and resealed as to render counterfeiting impossible. The entire profession should insist upon the safeguardsprovided, and there can be no questio n but that this action will be regarded with great favor by them.

The latest edition "Antikamnia and Codeine" tablets can be obtained direct, or from your druggist. Each tablet contains 4½ gr. Antikamnia and ¼ gr. Codeine.

NERVOUS EXHAUSTION.—

WASHINGTON, D. C., October 20, 1887.

I prescribed Horsford's Acid Phosphate in several cases of Nervous Exhaustion, the sequel of over-mental labor. In most of these cases I obtained most favorable results. In one the Tonic was not tolerated by reason of an idiosyncrasy rejecting the free phosphorus the remedy contains.

The elegance of the formula, the small dose required, and its potency go far to recommend the Tonic to the profession in that large class of neuroses so common among the brain-workers in this country and especially in this community.

D. W. BLISS, M.D.,
Of Cleveland Medical College, 1850.

CODLIVER GLYCERINE is rapidly assimilated when used either internally or externally and your patient is not required to use it externally.

PHILADELPHIA, June 16, 1894.

MCARTHUR HYPOPHOSPHITE CO.—

Dear Sirs—For thirty years I have used Syrup of the Hypophosphites and Churchill's Formula since its introduction to the American market through Dr. McArthur. It is certainly one of the best, if not the best, I have known in the practice of medicine.

It is remarkable for its combination of all the ingredients which are so well blended together in it and gives satisfaction to the patient and success to the practitioner.

HENRY E. DWIGHT.

TREATMENT OF ENDOMETRITIS—CERVICAL; CORPOREAL. After excluding uterine and ovarian tumors, salpingitis, cellulitis, displacements and deformities, and the portion affected is determined. In corporeal endometritis, the vagina being thoroughly irrigated, the aluminum reflex irrigator (uterine douche) or a flexible uterine catheter introduced, the canal is always dilated sufficiently to admit this tube, the organ is cleansed and rendered aseptic with a saturated solution of Sennine (antiseptic powder of chemically pure boracic acid and pure phenol) at each successive douche. The solution is increased in temperature. After removal of the instruments the Sennine powder is blown in the vagina by an ordinary bellows, and a medicated tampon is inserted. Treatment, twice a week.

In cervical endometritis the secretions are all removed from the canal and the vagina is thoroughly cleansed, and the same solution applied, blowing Sennine in with bellows sufficient to cover the cervix, then insert medicated tampon; to be treated twice a week.

(For prurigo dust the parts with Sennine powder).

Prescribe further physiological rest, and give a uterine tonic as Dioviburnia—dessertspoonful three times a day. If a nerve sedative is required at the beginning, thirty grain doses of bromide of soda will act admirably. Under this treatment all symptoms disappear very rapidly and the patient will gain flesh and strength, the secretions diminish and the tissuef involved will resume their normal state.

(Avoid all strong irritating and caustic chemicals as they only do harm).

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ORIGINAL ARTICLES

Endometritis: Cervical—Corporeal.

BY R. M. KERLEY, M D.,

Superintendent Female Hospital, St. Louis, Mo.

Of the many hundred patients that present themselves for treatment in this Institution, the majority have endometritis, either acute or chronic, cervical, corporeal or cervical and corporeal (general endometritis).

The origin is traceable principally to the puerperal climax before full term; also gonorrhea, injuries, as from pessaries, tents, chemicals and sounds, exposure to cold during menstruation, suppression of menses, excessive coition and extension of inflammation by continuity in vaginitis and sepsis. All are aggravated by overwork, either physically or mentally.

The enormously large periphery that is irritated and the extensive and intimate connection with the central nervous system through the many communicating branches of the sympathetic nervous system that is so rich in ganglia, whose construction is so arranged as to increase as well as forward each impression received with greater force and activity, transmitting the irritation from the uterus to the epigastric plexus—through the greater and lesser splanchnics and lateral chains to the thoracic cavity and heart and through the carotid canal to the ganglia along the fifth nerve.

From the solar plexus this irritation is transmitted over the phrenic to the diaphragm resulting in irregular, shallow, and at times difficult respirations. Over the supra renal and renal plexus to the supra renal capsule and kidney, resulting in deficient, irregular, or increased secretion of urine and salts therein.

Over the celiac plexus to the stomach, liver, spleen and pancreas, resulting in congestion and deranged and irregular functions of these various organs—indigestion, non assimilation and consequently anemia.

Over the superior and inferior mesenteric plexus to the large and small intestines, rectum and bladder, disarranging these viscera by inactivity and distention of intestines, intestinal pains, constipation or diarrhea; and of the bladder, frequent, suppressed or difficult urination, etc. Other symptoms alike examined—cephalgia, neuralgia, pain-weight and dragging in the pelvis, pain in the back, groins and thigh, with visceral and rectal tenesmus, rising of the womb, burning and pricking in the vagina, irregular and rapid heart action, cardiac palpation, weak, nervous, anxious and despondent, bordering on melancholia.

Upon bimanual examination the organ is found to be enlarged and sensitive to the touch—cervix edematous and softened—maybe lacerated, if secretions are excessive (being alkaline), thereby neutralizing the acid secretions of the vagina, resulting in vaginitis and a very sensitive canal; the external manifestation is prurigo.

The perineal retractor (Sim's Speculum) being introduced will reveal an enlarged and more or less congested cervix, relaxed condition of the vaginal walls, cervical canal dilated and from it is issuing a more or less clear albuminous fluid or muco pus, of a stringy and tenaceous consistency; the os dilated; exploration of the uterine cavity is prohibited except absolutely necessary for diagnostic purposes, and under the most strict aseptic precautions.

TREATMENT.—After excluding uterine and ovarian tumors, salpingitis, cellulitis, displacements and deformities, and the portion affected is determined. In corporeal endometritis, the vagina being thoroughly irrigated, the aluminum reflex irrigator (uterine douche) or a flexible uterine catheter introduced, the canal is always dilated sufficiently to admit this tube, the organ is cleansed and rendered aseptic with a saturated solution of Sennine (antiseptic powder of chemically pure boracic acid and pure phenol) at each successive douche. The solution is increased in temperature. After removal of the instruments the Sennine powder is blown in the vagina by an ordinary bellows, and a medicated tampon is inserted. Treatment, twice a week.

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(Avoid all strong irritating and caustic chemicals as they only do harm).

Morphinism in Medical Men.

BY J. B. MATTISON, M D,

Medical Director, Brooklyn Home for Habitues.

Read before the American Medical Association, San Francisco, June 6, 1894.

It is a fact—striking though sad—that more cases of morphinism are met with among medical men than in all other professions combined. It is too true that a very large proportion of cases, in general, is found in our own fraternity.

In a paper on "Opium Addiction Among Medical Men," presented in the *Medical Record*, eleven years ago—June 9, 1883—reference was made to the dismissal—within a week—of a half dozen doctors recovered from this disease, and attention called to the surprising frequency with which it occurs in this particular class.

Another decade of professional work exclusively given to the betterment of such patients has brought no decrease in the number—indeed, the reverse has quite steadily obtained. So that in a paper on "The Ethics of Opium Habitues," *Medical and Surgical Reporter*, September 8, 1888, in a resume of 300 cases, we noted 118 doctors, and of 125 most recently under my care, 62 were medical men; and the latest reference to my record shows a still larger proportion, being more than 70 per cent. Again and again I have been asked, with surprise, "why do doctors so often fall victims to morphia, when they, more than all others, should know the risk attending its use?" Various factors make up the answer to this query.

While insurance statistics show that medical m n attain a shorter average lease of life than those of other professions, it is also true that the wear and tear of their calling provoke a larger share of painful, non fatal dis orders. Neuralgia, in one or other of its protean forms—especially migraine—which leads the list in the genesis of this toxic disorder, occurs among physicians with a frequency that may well excite surprise. Add to this, the anxious hours, the weary days and wakeful nights that the experience of every busy doctor so often involves, and which, though acting indirectly, still swell the sum of causative conditions in this chronic toxemia, and little wonder that we have a soil especially rich for a sorrowful harvest, if, unhappily, the seed be sown. It has been asserted that medical men become morphinists through their calling, involving frequent handling of morphia, but that statement, in my opinion, is not true. Erlenmeyer shares in this disbelief. Druggists, whose vocation largely exposes them to the same risk—more so, in the city, than the doctor—do not often become morphinists.

A cause, peculiar to the medical man, in some cases, is that careless curiosity which prompts the doctor—generally a junior—to note the effect of morphine upon himself, and, in so doing, incur the risk of addiction. Obersteiner refers to such cases. A young physician asserted that while on hospital duty a patient was dismissed who had suffered from carcinoma of the stomach, and been treated with morphia injections. Next day he returned, begging for more as, otherwise, he must die. This was in 1869, when chronic morphinism and its results were less known than now. As the doctor was inclined to think the patient was romancing, he tried the experiment on himself to ascertain the effect, became a morphinist and never recovered. Another case was that of a young physician who being assistant in a physiological laboratory, thought himself an interesting subject for experiment. More than one doctor, whose disease had a like origin, has been under my care.

Another cause obtains with physicians to the same extent as in non-medical men, and that is the all too frequent use of morphia which the modern practice of medicine involves. Of this, there is no question. Indeed, it holds more largely with the doctor than the layman, for the former—fully aware of the opiate's power to ease pain: pressed by his duties to get relief with the least possible output of time, and declining to make himself an example of the precept tendered his patient as to the value of patience under suffering, that will permit the using of non opiate remedies, or, if the morphia be demanded, which, at least, will secure its giving at infrequent intervals, or alternating with other anodynes, and so lessen the risk of addiction—lacks a certain inhibitory—so to speak—protection which serves as a shield to the non-professional patient.

Still another genetic factor and, in my opinion, the one which outranks all others relative to the frequency of this disease in medical men, is their ignorance or unbelief as to the subtle, seductive, suaveful power of morphia. It is to me quite beyond belief that any doctor, fully realizing how swiftly and how surely the treble, pernicious power of this drug takes one captive, will deliberately give himself up to a servitude galling alike to body and mind, and which, in most cases, ends only with life. Such a suicidal course is opposed to reason, to common sense and to fact.

In expressing this disbelief you will, quite likely, infer my skepticism as to the common opinion regarding the ethical status of our confreres whose ill-starred fortune has brought them such wretched results. I have long held, and still hold, with steadily growing belief, based on nearly twenty-five years' study of this disease, and an acquaintance intimate, more or less, with the history of many hundred cases, that medical men do not become morphinists from an innate propensity to evil, from a merely vicious desire to indulge in

the pleasures of the poppy—pleasures which, be it never forgotten, soon and surely give place to its pains—but, rather, that they are impelled thereto by force of physical conditions that—with the largely prevailing failure to realize the risk incident to incautious morphia-using—are, practically, beyond control. This phase of the subject need not now detain us, for it has been noted, with large detail, in the papers—"The Ethics of Opium Habitues," Brooklyn *Medical Journal*, August, 1888, and *Medical and Surgical Reporter*, September, 1888.

In reviewing the various causes of morphinism in medical men, the most hopeful feature is the fact that they are largely preventable. In this lies the strongest incentive to presenting this paper—the largest promise that it may do good.

Regarding the cause first noted—the wear and tear of an over-active professional life—he must be specially sanguine who would expect to improve conditions along this line to an extent likely to largely lessen such untoward result, though it cannot be denied that the cares of a medical calling are less exacting than a decade or two ago, and so figure less as a generic factor in this disease. Yet I am bound to confess the outlook much more encouraging should careful and concerted effort be made to make less active the other causes to which we have referred.

Regarding the misdirected zeal of the ill-starred seeker after self-evidence of the effects of morphia, we can only again warn him—and earnestly—that the experiment is fraught with danger, and the rash act may prove his ruin, for the spark thus applied may set aflame that which will only be extinguished with life. He is a fool who does it; and the truly wise man will curb his spirit of inquisitive research along this line, if only on the score of personal well-being; besides, no such self-sacrifice is called for, inasmuch as the peculiar effects of morphia—both as to blessing and bane—are now quite patent to all.

No one who has given the subject special thought will be likely to question an assertion that the use of morphine in the medical practice of to-day is in excess of what an actual need demands.

And in direct proportion, more or less, to this excess, stands the increase of morphinism. As a factor, applying to cases in general, it outranks all others, though, as regards medical men, it holds, in my opinion, second place.

Custom and convenience share in its causation. Custom, because tradition has handed down a belief in the anodyne-soporific power of morphia, which, while well founded, has not been attended by an equally well-grounded belief in its possible power for ill. Prominence, because its promptly pronounced effect favors it as first choice when speedy relief is desired, and especially where, as soo often happens with the junior members of the profession, the wish to score such a brilliant result as may prove a stepping-stone to rapid professional advancement outweighs a due regard for untoward remote effect—from which appreciation, a frequent giving of morphia—or any opiate—should never, it is well to say, be exempt. This is a truism, the force of which should never be forgotten.

Leading all others as a genetic factor in morphinism in medical men, is their failure to realize the insidious power of morphia to speedily get a grip, disturbing and destructive alike to functional well-being of brain and brawn, and, in almost every instance, one too great to be broken by any self-effort they can command. At this writing I am consulted by a young physician, whose case emphasizes this point. Sixteen months ago death left him wifeless and childless. In a specially unhappy moment of his grief he took a dose of morphia. It acted kindly, brought transient relief from his mental pain. A week went by before the second dose was taken, and then—the old story; quite mistaken as to the poppy power and his own strength to resist—again and again till his capture was soon complete. Commenting on his case, he assured me he knew the risk attending morphia taking and never should have incurred it had he fully realized how direful the result of that risk would be.

It is quite beyond credence that a doctor, gifted with sound sense, would wittingly put his neck in such a noose. Granting this, the only reason for taking such a perilous hazard is, as before stated, an inadequate appreciation of the morphia's power to enthrall.

Touching this point, enlarged experience confirms an assertion made ten years ago that "the subtly ensnaring power of morphia is simply incredible to one who has not had personal observation or experience. One of the finest specimens of physical manhood we ever knew, a physician who survived the horrors of Salisbury prison when the death-rate averaged 80 per cent, fell a victim after only one month's hypodermic using. Since then, case after case has been under my care in which the initial stage was still shorter. The most notable was an athlete of superb physique, who withstood the rigor of an Arctic winter as surgeon to a Polar expedition, and then went down before a three weeks' daily quarter grain dose of morphia to ease the pain of an injured ankle!

So much for the genesis of this disorder. What the remedy? It is easy to moralize on the weak will—as many, mistakenly, are wont to put it—of our hapless brother—living under this blight. Talk about "weak will" as a reason why strong men succumb to morphia—and I make bold to say that the man does not live, who, under certain conditions, can bear up against it—is twaddle. Far better it is to face the fact that morphinism finds, most often, its favorite victims in the noblest profession known, and then recognizing the causes that make this fact, bestir ourselves to such precept and practice as will tend to remove this blot on the scutcheon.

Can this be done? Very largely—yes. In this hopeful belief lies the one redeeming feature of the prevalence of this toxic neurosis in our own guild. Morphinism is on the wane—in my opinion—and I am optimis-

tic enough to think the day not distant, when it will be, largely, a thing of the past. But to reach this happy result, it becomes the bounden duty of every physician to inculcate by teaching and by example the paramount importance of the causes we have cited that tend to the rise of this disease. Two call for special comment. These are the over-use of morphia and the underthought of its danger. Regarding the latter, let me warn, with all the weight I can command, every doctor who may be dallying with this drug, or who may think its self taking called for—and this warning holds with special force if the sub dermic method be practiced—let me warn him that he is inviting disaster, by jeopardizing interests vital to his well-being, and let me urge him to pause, and to ponder well, whether, despite this warning, he dare take such risk. Let him not be blinded by an under estimate of the poppy's power to ensnare. Let him not be deluded by an over-confidence in his own strength to resist; for, along this line, history has repeated itself with sorrowful frequency, and—as my experience will well attest—on these two treacherous rocks hundreds of promising professional lives have gone awruck.

I have no wish to pose as an alarmist, but I tell you, gentlemen, that many a doctor who gives himself a daily hypodermic dose of morphia, for a fortnight, will come perilously close to the danger line—beyond which bondage begins. Let him not chance it; rather let him, if the opiate demand be imperative, consign its giving to other hands; let it be by mouth; and, oftener, let it be codeine, which, as an anodyne and soporific, has not yet had the measure of merit it deserves, and which, as tending to tolerance, is vastly less riskful than morphine.

In a paper before the American Medical Association two years ago—"The Prevention of Morphinism," reprint at command, and by the reading of which I would have every one of you the gainer—attention was called to the value of codeine. Enlarged experience has confirmed the opinion then expressed, and while I am glad to note the demand for it is steadily increasing, I earnestly urge its still larger use, as one of the most promising factors to favor a decline of the morphine disease.

Regarding the over-use of morphia, never was there so little excuse for it as now, for never were the means at command to ease pain and bring sleep equal those of to-day. Modern medicine is richly equipped in this regard, and if these resources be fully availed of, it will go far in a decrease of this ill. As tending to this, teachers in medical schools should realize that they have opportunity to weild great influence for good, and by word and deed, they should improve it. To do so, would strike right at the root of this evil, for I verily believe the junior members of the profession are the greatest sinners in this regard; and if, by timely counsel from their preceptors and college instructors, the thousands who, year after year, begin a medical career, can be brought to believe the danger incident to an incautious or needless giving of morphia, and then shape their practice in keeping with that belief, the good work will be largely done.

Slowly, but surely, the therapeutic trend is in this direction. More and more the older medical men, impelled by larger wisdom, or an experience often unhappy, are quitting the syringe; more and more rarely are they using morphia. The influence of this example must make itself felt on the younger men, and when to this is added the teaching we have commended, the dawn of a better day will not be distant. May that good time coming, soon come.

Prospect Place, near Prospect Park.

Dysmenorrhea Attended With Extreme Nervousness, Insomnia, Anorexia and General Debility.

BY A. E. KROENING, M D, MONMOUTH, ILL.

Recognizing the profession is many times greatly troubled with uterine diseases that are so commonly met in practice, I report the following case:

Miss M. F., seamstress, unmarried, aged 21, who had been under the care of two of the oldest physicians in this place for months without deriving any benefit. The pain during her menstrual period kept her in bed from four to six days; and during the interval she suffered with a constant pain in the left ovary, attended with extreme nervousness, insomnia, anorexia and general debility. After her last flow she applied to me for treatment. Did not venture to make a vaginal examination at that time, but contented myself with the patient's history, which led me to order the following prescription:

℞ Fl. ext. gelsemium,
Fl. ext. staphysagria, - - aa ℥j.
Dioviburnia, - - - - q. s. ad ℥iv.
M.
Sig. ℥j after each meal and at bed time, in water.

In one week she reported herself better in every way. The nervousness which had been a very prominent symptom had disappeared, but the pain in the left ovary was still present. Ordered the same mixture with an occasional half grain aloin pill as became necessary to regulate the bowels.

In a week reported herself in excellent condition. No nervousness or pain in ovary; better in every way and in jovial spirits. Ordered a teaspoonful of Dioviburnia to be taken in water four times a day until after her next menstrual period, which she did. A few days after the cessation of her flow she reported that the pain had been so very slight that she did not care to mention it. In short, she was apparently well.

This case illustrates pretty fairly the therapeutical action and happy effect of Dioviburnia upon the diseases most common and trying to every physician.

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

All letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, should be addressed to 914 Locust Street, St. Louis.

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Another Attack on Our Colleges.

Our grand old State and glorious City has once more to bear the brunt of an attack because of our phenomenal fertility of medical schools. Our sense of wounded local patriotism prevents us from publishing an article in full, which we read in the *American Medico-Surgical Bulletin* of August 1, 1894.

We content ourselves with copying the pick of forcible phrases denouncing one of our chief industries:

"The iniquitous practice of founding new medical colleges goes on unchecked to the lasting disgrace of the profession and legislatures of those regions. * * *

"Missouri has fourteen of these execrable institutions, and Ohio fifteen! What a commentary upon the character of the legislatures of those States, and upon the ambitious and morale of the physicians who have combined to incorporate these diploma mills." * * *

These States are called "the pesthouses of the medical college disease of this country." * * * "But their communities are waking up to the necessity of checking the infection, and stamping out the pestilential nidus threatening to form in almost every county seat and post-office in Ohio and Missouri."

"We should think that the mob of professors which infests St. Louis would disband, disperse, hide away, or lose itself in the body of the medical profession, which, even in St. Louis, is respectable and quiet, and scientific and noble, even though its virtues are not blazoned to the world in blatant newspaper or shocking medical journal nor SHRIEKED FROM THE STEAM WHISTLES OF THE DIPLOMA MILLS."

For the sake of completeness we add some sentences from a communication from Dr. Jerome Cochran, of Montgomery, Ala. Dr. Cochran is not a kicker against the further increase of medical colleges, because he has been left out on a slate prepared by a college-designing gang of ambitious doctors, but he protests against an unwarranted attempt on the part of such a gang at Birmingham, Ala., to mix him up with a scheme of this kind. He claims that in our country there are six times as many colleges as we have any need for and that he is sustained in this opinion by nine-tenths of the doctors the United States. He considers the exploitation of of a medical college as a business in which honorable men may honorably engage. But as the matter stands to day, medical colleges are to a large extent the *natural enemies of our people and our doctors.*

About the *modus operandi* to be observed in founding a new college he says:

"The process is simple enough. It is only necessary to form a company of seven or eight doctors, build a big brick house, and apply to a complaisant legislature for a charter, and lo! the thing is done. Full-fledged professors grow up in a night like Jonah's gourd; diplomas in high sounding Latin and on excellent sheepskin can be ordered by the thousand, and the only thing left to do is to get students. But students they must have or perish.

"We do not have to seek far to discover the cause of antagonism between the medical colleges and the medical profession. It is due to the fact that the great majority of our medical colleges have been built by private enterprise, and have been managed for the private emolument, in money and in reputation, of the men who built them. All this is as in the nature of things we should expect it to be. But let us call things by their right names."

He also speaks of the tyranny of the medical colleges and the struggle, that is still on, of the medical profession for its emancipation.

It seems, indeed, that something like a nemesis is looming up in the near future, a nemesis which forebodes evil to the Pharisees who are monopolizing medical instruction to the detriment of worthy teachers and efficient institutions.

Medicine in Japan.

In an interesting paper which recently appeared in the *Deutsche Medicinische Wochenschrift,* Professor M. Ogata, of Tokio, gives an account of the introduction of European medicine in Japan (*Brit. Med. Jour.*).

There are three kinds of medical practitioners in that country: those who practice according to the traditional teaching of Japanese medicine; those of the Chinese school; and those who have been trained in European schools. Many practitioners combine two or all of these systems. The history of Japanese medicine goes back to a date previous to historical record; as far back as 2,500 years ago there was a body physician to the Emperor. Chinese medicine was introduced about 1,500 years ago. European medicine first reached Japan 350 years ago from Portugal and Spain, having been introduced by the Jesuit "Bateren" (*Padres*). A century later the Government allowed Dutch traders and doctors access to particular ports; the doctors treated sick people with the help of a Japanese interpreter, himself always a medical man. For this reason, until a short time ago, European medicine was known in Japan as "Dutch," and it was chiefly in repute on account of the superiority of its surgical results. R. Maino, a native of Japan, 130 years ago, first translated Dutch books on medicine, astronomy, mathematics, etc. At a later period his pupils Ohzutei, Sugita, Udagawa and others, studied medicine and published translations which greatly furthered the study of medicine in Japan. Fifty, or according to some authorities seventy years ago, Von Siebold came to Nagasaki, and many Japanese practitioners went there to study under him. Thirty-six (or, according to other authorities, fifty-six) years ago, the Japanese Government invited the Dutch military surgeon, Dr. Pompfe, to Nagasaki to teach medicine. Under him studied the late Staff Surgeon-General R. Mazumoto, S. Satoh, T. Lasaki, and others, and a hospital was opened in which many patients were treated. Thirty two years ago Dr. Bodwin went to Nagasaki, and was the first to give systematic instruction in medicine. He taught physiology, materia medica, clinical medicine and surgery and ophthalmology, besides physics, chemistry and anatomy. About thirty-four years ago Ito, Takenonzi and Hayashina established a vaccination station in Tokio, and in connection with this institution a school of medicine, of which K. Ogata and R. Mazumoto were the directors, was established three years later. Subsequently T. Zuboi, K. Schimamura and others taught in the school. In the year of the War of Restoration (1868), a military hospital was founded in Yokohama; this was afterwards transferred to Tokio, and amalgamated with the medical school under the name of a university. Here the English physician, Dr. Willis, taught, and after a time Dr. Bodwin came from Nagasaki to Tokio. Twenty one years ago the then director of the Medical Faculty of Tokio, K. Sagara, being convinced that medical science was more advanced in Germany than in any other country, induced the Government to invite teachers from that country to come to Japan. Accordingly Dr. Mueller and Dr Hofmann came to Tokio as teachers of surgery and medicine respectively. German became the official language of medical and scientific teaching in the university. Other German teachers soon followed. Seventeen years ago a Staats-examen, on the lines of the German one, was instituted. The course of professional study extends over eight years, and the number of students who graduate averages from twenty to forty annually. Up to 1891, the degree of doctor of medicine had been conferred on 384 persons. The total number of medical practitioners in Japan in 1889 was 41,305, about one-fourth of whom had studied European medicine "more or less." The majority of practitioners dispense their own medicines; they charge nothing for advice but live by the sale of drugs. Those whose practice is not at all extensive have several pupils, besides one or two qualified assistants. Some physicians and surgeons in large practice in cities like Tokio, Asaka, etc., have private hospitals accommodating from forty to one hundred patients.

The Amount of Nitrogen in Red Blood-Cells.

R. von Jaksch has shown (N. Y. *Medical Journal*) that the amount of albuminous substances in blood is subject to great fluctuation in pathological conditions. Thus, while in health a hundred grammes of circulating blood contain 22.6 grammes of proteid, the amount in extreme anemic conditions may diminish to ten grammes and even less. The question arises to what extent the blood cells and the blood serum are each responsible for this fluctuation. As regards the blood-serum, it has been stated in the review referred to above that except in the case of renal disorders the amount of proteid in the serum is subject to little variation. This author in a later communication (*Zeit. f. Klin. Med.*) presents the results of a careful study of the amount of nitrogen of the red blood-cells in health and disease.

To the clinician the question is of importance whether in primary and secondary disorders of the blood a diminution in the amount of proteid is to find explanation alone in a diminished number of red blood-cells, or whether alterations of the blood exist in which the red blood-cells are changed so that they are actually poorer in proteid and hence in nitrogen. Von Jaksch finds for blood in health that a hundred grammes of moist red blood-cells contain 5.52 grammes of nitrogen, corresponding to 34.5 grammes of proteid. The results obtained from the study of blood from some acute diseases (*i. e.*, pneumonia and typhoid fever) and in certain chronic disorders (*i. e.*, heart failure, liver affections, nephritis, diabetes) show that the amount of nitrogen in the red blood-cells remains practically unchanged. Hence it appears that in these disorders any fluctuation in the amount of proteid not due to variation in the proteids of the serum depends upon a variation in the number of red blood-cells. Of even more interest are the following results: In secondary anemias, besides a scarcity of the blood in proteid, a diminution of the total solids, and an increase in the amount of water, there is in addition an actual decrease in the amount of pro-

teid in the red blood-cells themselves (4.52 grammes of nitrogen corresponding to 28.25 grammes of proteid). In primary anemias, on the other hand, the results are different. While in chlorotic and leucemic bloods the proteids seem to be diminished as in secondary anemias, in pernicious anemia the red blood-cells are actually richer in nitrogen and hence in proteid.

CORRESPONDENCE

Typhoid Fever.

Editor MEDICAL REVIEW.—In the treatment of typhoid fever during the epidemic of the fall of 1892, in St. Louis, and during the present season, 1894, I have used, substantially, the following treatment with such signal success that I can earnestly recommend it to others.

To control the temperature, repress diarrhea and give rest:

℞ Salo-Sedatus, - - - grs. xx.
Subnitrate of Bismuth, - - ʒjss.
M. Divide into ten powders.
Sig. One every two, six or twelve hours, as required.

When there is a tendency to hemorrhage:

℞ Salo-Sedatus, - - - grs. xx.
Sulpho carbolate of zinc., - grs. xxx.
Subnitrate of bismuth, - - ʒij.
M. Divide into ten powders.
Sig. One every two, four, or six hours, as may be required.

A solution of sulphite of soda was used in the intervals. Salo-Sedatus and the sulpho carbolate of zinc are furnished in tablets, as they may be used instead of powders, if preferred.

These combinations controlled fever and hemorrhage, kept the bowels in an aseptic condition, and in no way impaired digestion. Over seventy cases have been managed in this way with the happiest results. The success must be attributed to the antiseptic properties of Salo-Sedatus and sulpho-carbolate of zind. Salo-Sedatus is a powerful antiseptic, and this property makes it a superior febrifuge in typhoid and septic conditions. Try it.

GEO. C. PITZER, M.D.

St. Louis, Mo.

Hysteria.

℞ Neurosine, - - - - - - - - 1 bottle.
Sig. Teaspoonful at bedtime.

HOME SEEKERS' EXCURSIONS.—On September 11th and 25th, and October 9th, the Burlington Route will sell excursion tickets to all points in the Northwest, West and Southwest, at one fare for the round trip, plus $2.00.

MEDICAL SOCIETIES

The British Medical Association.

Sixty-Second Annual Meeting, Held at Bristol, July 31 to August 4, 1894.

We are indebted for this report to the *Medical Record.*

SECOND DAY, WEDNESDAY, AUGUST 1.

THE PRESIDENT read out a list of visitors to the conference from various parts of the world, and also mentioned that representatives were present from many colonial branches.

DR. WARD COUSINS stated that the Council received that morning a very large metropolitan deputation, headed by Dr. Russell Reynolds, inviting the Association to London for its next annual Congress. The Council recommended that they should accept the invitation, and he need not tell them that the Council would do all in their power to help the development of the meeting so as to give entire satisfaction, not only to the whole Association, but to their metropolitan associates. It would be a great satisfaction to know that they had selected as the president the President of the Royal College of Physicians. He moved that the invitation to hold the annual meeting for 1895 in London be accepted, and that Dr. Russell Reynolds be nominated as the President-elect. The President seconded, remarking he need hardly say they could not have a better President-elect, or a better place to meet in than London.

THE ADDRESS IN MEDICINE

was then delivered by Sir Thomas Grainger Stewart, M.D., Professor of Medicine in the University of Edinburgh, who said he did not propose to give an address on the general subject of medicine, but would select one special disease which had been much talked about among us of late, namely, the influenza, which, however, was no new epidemic, for Randolph, the ambassador from Queen Elizabeth to the Queen of Scots, described it accurately in a letter to "Her Grace." It was called "the new acquaintance," because it visited everybody. There were three types of the disease, the respiratory, the intestinal and the nervous, while its complications and sequellæ were numerous. Some of the latter were purpura, hemorrhagica, vomiting, anemia, gout, diabetes, cardiac symptoms, dropsy, pneumonia, phthisis, skin eruptions, sweating, affections of the urinary and reproductive systems, albuminuria, hematuria, inflammatory symptoms as cystitis, and especially nervous, involving sight, hearing and smell, sometimes increasing the power of these senses, but more usually decreasing them. We had considerably increased our knowledge of the histology of the disease. It had one essential

cause, the Pfeifferian bacillus, which was always present and was never found in any other complaint. The result of inoculation with the cultivated virus was unsatisfactory, for no animal, except man, was affected by this micro-organism, not even the monkey.

The bacillus will only live in the presence of hematoglobin. It does mischief in many ways, but chiefly by means of the poisonous products it sets up in the system. Possibly it provided a nidus in which other poisons found a chance of ready development at a time when the power of resistance of the patient was diminished, for exhaustion favors the growth of micro-organisms. Some white rats were inoculated with the bacillus of anthrat, half their number were placed in a cage and forced to work the tread-mill, the others were allowed to rest; the former developed the disease, the latter escaped.

Two organisms co-existing in the same subject may diminish the action of one or both; as they may increase it. The bacillus of tubercle when associated with the gonococcus found in green pus renders the disease of phthisis much more formidable.

Faulty innervation is at the bottom of heart and stomach troubles following influenza. The malnutrition of the tissues causes a poisoning of the nerves.

Causation of influenza is obscure; it was once thought to be propagated through the air. H. M. S. Stag was coming up the Channel, when a man was taken suddenly ill, and in twenty four hours over one hundred men were laid down with the influenza. No similar case has since been recorded and no one takes the disease who has not come in contact with some one else who had it. It multiplies with extraordinary rapidity, so that in twenty-four hours a whole community may be affected.

The life history of the influenza bacillus is peculiar—it will not live in water, which is good news for the teetotallers. It cannot bear drying and must be kept moist like some people. (Laughter). The disease might be stamped out by isolating those affected. At all events, delicate people should not frequent crowded schools, theaters, or churches. Menthol and guaiacol will destroy the bacillus, or at least considerably diminish its activity; the mode of administering is by laryngeal injection, which is quite simple when you have found out the way to do it. Phthisical people are the best subjects for the experiment. The victim should yield at once—off to bed and take care of yourself.

Dr. F. Roberts proposed, and Dr. Shingleton Smith seconded, a vote of thanks to the lecturer, the former declaring that he was deeply interested by the assurance that the bacillus will not live in, and cannot be propagated by, water; he also congratulated him upon the honor the Queen had bestowed upon him.

Sir T. G. Stewart, in replying, said there was an old Scotch proverb to the effect that the best mirror is the eye of a friend.

The Middlemore Prize.

The President announced that the Middlemore Prize for 1891 had been awarded to Mr. Edward Treacher Collings, F.R.C.S., L.R.C.P., who, however, was traveling in Persia.

Dr. Ward Cousins explained that the prize was £50 interest on a sum of money left by the late Mr. R. Middlemore, of Birmingham, for the best essay on any subject in ophthalmology, medicine or surgery.

Third Day, Thursday, August 2.

Address in Surgery.

Mr. Greig Smith, Professor of Surgery in the University College, Bristol, then delivered the address in surgery, taking as his subject, "The Art of the Surgeon."

After gracefully acknowledging the honor paid to Bristol and himself in his selection for this duty he said that former orators had chosen to sing pæans on our victories over science and glorified scientific heroes. It was his intention on this occasion to leave science alone and deal with the art, and how we trained men to practice it. What was a surgeon? A stranger might judge from a study of door plates that there was no difficulty in answering; but the word "Surgeon" on a door usually meant that its possessor was capable of all branches of the healing art except surgery. The surgeon in these days of high sounding titles was almost alone in following a craft called "handwork" whose title was needlessly humble.

The surgeon was first and foremost a physician. In person or by proxy he must lean on medicine. Besides medical training he must have special education in his handicraft. In old times the surgeon was the slave of the physician, later his enemy, to day his equal and helper. Their rivalry was now a goodly and a wholesome one. Among other arts and crafts surgery was unique in the breadth of its foundation on science. A surgeon must know something of all the sciences, a good deal of a few, and everything of two or three.

Was all our display of knowledge genuine? Examiners seemed to have their doubts, so fearful were they apparently that the student's knowledge might trickle away unless he were annually examined. When was the importation of new subjects into the curriculum to stop? The burden was becoming steadily heavier to bear. Should we cast off some of it as cumbersome or useless? Some said that we have too much anatomy, that it is useless to the practical surgeon, and that physiology was unstable and uncertain, that the young physiologist gives a dose of castor-oil, on much the same principles that his grandmother acted on. Pathology they said was the science of too late. These men were as honest as their opponents. From that very rostrum their views had been proclaimed. He ventured to differ. If asked, "Are we to lower surgery so that brains may not be strained?" he would answer, "Let surgery rise if brains fall!" He would not cast away anything, but he would select, rearrange and raise, and have more anatomy, physiology and more pathology.

The end of culture for the multitude seemed to be to nibble at science, dabble at art, and drivel over the glorious advances of the century. Surgery tolerated no dawdling or dilletanteism. The surgeon's knowledge must be real and thorough and practical, and he must carry it with him. He must have the real knowledge of the artist begotten of personal labor and not of cribs and mnemonics. That surgeon's armor was weakest at vulnerable points who was not protected by a complete panoply of anatomical knowledge. The complete surgeon must not cease to learn anatomy in his lifetime. Only the other day the attention devoted to the vermiform appendix had rendered our knowledge of its anatomy more perfect. Centuries of observation by the morphologist were not equal for our purposes to the few months' work of the practical surgeon. No honest surgeon dare let himself remain ignorant of any new patho logical or physiological fact that might bear on his work. Bacteriology was of supreme importance, and we dare not stop anywhere in our studies so long as knowledge advanced.

There was real danger that the claims of science might injure the art of surgery. It was a pity that science should so often kill art. Certainly in surgery there was no reason for this, but science and art could flourish together.

The art of the surgeon might be viewed from two aspects; one side might be called mechanical, the other was closely allied to a fine art. Easily learnt as the mechanical side was it was worthy of being taught and it would be good for most surgeons to spend a month or two in a mechanic's workshop. In respect of technical skill in handling, he would place surgeon's tools on a level with the sculptor's spatula or chisel, or only a little higher—they were mere accessories in the work of the brain compelled hands.

The other side of the craft he would venture to compare with that which produced works of art. This side was far the most important. The highest part of surgical fine art—for surgery was nothing less—was braincraft uttered through the fingers, not mere dexterity or cunning. The finger-surgeon began at the wrong end, he ought to have been a button-maker. The important sense of touch—the only one in which men excelled the lower animals—was trained through the intellect as much as the fingers, and was aided by other senses, especially sight.

There were no limits to the demands made on the surgeon's tactile powers. Touch to the surgeon was what hearing was to the physician. But it was always the intellect that interpreted. It was as true now as twenty centuries ago that "'Tis mind that sees and mind that hears; all other things are deaf and blind."

The sculptor and the surgeon both dealt with the human body. Each art demanded from its votaries absolute fidelity to form; ignorance led to grief in both. Their ways of working were also alike. In each the true artist went as far as necessary at once without trifling. The surgeon who was not an artist was good at some details, but not in all, and lacked a sense of true proportion.

The world lost a great surgeon in Leonardo da Vinci, and a great artist in Sir Charles Bell. What was the teaching of this art of surgery? There was no real teaching of the art of surgery in this country. We had to teach ourselves by experience alone. The young sculptor might with impunity make and break figures, but the young surgeon was not supposed to damage or destroy human beings.

Artists and craftsmen learnt their work with a master to correct their faults. Surgeons alone were unassisted in this way in their art, although in his science the student had guidance enough. Operative surgery on the dead body was useful and indispensable, but it was only a step toward operating. The art must be taught to the young surgeon while actually operating, and his mistakes pointed out and his successes commended. What would they not give now to have a Liston or a Syme at their elbows to teach them? To imagine Liston, trained as he was in the cruel and exacting school of preanesthetic days, having before him our science, was to realize the ideal surgeon-artist.

Apprenticeship or pupilage would do something for surgery, but we needed personal teaching in high art by competent masters, as was done in medicine and obstetrics.

The state would only help those who helped themselves. Let us do so, and we might one day seek for a Royal Academy of Surgery, and a school with teachers attached.

One of the great surgeons of five hundred years ago and more wrote, "Knowledge is created by additions, the same man cannot lay the foundation and perfect the superstructure. We are as children carried on the neck of a giant; aided by the labors of our predecessors we see all that they have seen and something beyond." Let us in our love for the new science not forget the old art. Let us graft our new truths on the old stock that they may long live and flourish.

Mr. Reginald Harrison moved a vote of thanks to Prof. Greig Smith for his interesting address, and said the resolution only inadequately expressed the indebtedness of the Association.

Mr. Nelson Dobson, of Clifton, in seconding the resolution, said it was a peculiar privilege to do so on that occasion of a large assembly thanking his neighbor and friend. He further expressed the gratification of his brethren who practiced in the neighborhood that one of them should have been chosen for this honorable distinction. The good old city of Bristol, he said, had made the name of Smith famous in surgical history: "Dick" Smith and "Nat" Smith were familiar names until the present day, and he believed that Greig Smith would also be remembered not only for his great achivements in surgery, but for the address he had just delivered.

The resolution was carried by acclamation, and briefly acknowledged by the Professor.

Most of the audience than dispersed, leaving only a few members to transact the formal business, which was at once entered upon.

This included the adoption of the Reports of the Scientific Grants Committee, of the Committee of Legislation for Inebriates, of the Therapeutic Committee, of the Medical Charities Committee, of the Committee on the Efficient Control of Railway Servants' and Mariners' Eyesight, of the Committee on the Examination of School Board Children, and of the Anesthetics Committee.

[TO BE CONTINUED]

ABSTRACTS

MEDICINE.

Peptonuria Induced by Drugs.—Dr. A. Piccinini (*Gazz. Degli Ospedali; Med. Bull.*). The observations made upon the urine of individuals treated with Koch's lymph showed the frequent presence of peptone in the urine, and increased the significance of the phenomenon of peptonuria. Hitherto it has been attributed to the presence of pus or other exudates absorbed in the system, to foci or destructive changes existing in certain organs, such as the brain and liver, or in certain tracts of the digestive system. Peptonuria, resulting from treatment by tuberculin, was then attributed to some toxic influence exerted by the remedy, without any exact explanation of the mechanism of this action. It was simply said that the toxic element was a protoplasmic poison, causing the death of many cellular elements and the transformation of albumin, which became hydrated and caused the peptonuria. Nothing else has, so far, been discovered in regard to this interesting and important problem, and the author has thought it might be of interest to find out whether other medicinal substances could produce the same effect, viz: a toxic peptonuria, employing the word toxic in a restricted sense.

Dr. Piccinini found several substances which gave rise to peptonuria, and guaiacol is shown to possess it in a marked degree. Large doses administered by the epidermic method, bring about the appearance in the urine of a substance giving the principal reactions of peptone. This occurs after the appearance of the pro fuse sweats, from 10 to 20 hours after the application of the remedy, and is continued for 24 to 36 hours. The quantity of peptone eliminated is not large, and the ordinary biuret reaction reveals it but slightly or not at all, the most effective reaction being the one based on the precipitation of peptone by means of the ammonium sulphate: 200 c. c. of urine are treated by the addition of 120 grammes of triturated ammonium sulphate. When dissolved, the liquid is filtered, and the precipitate found in the filter is dissolved in 15 to 20 grammes of water, which is then submitted to the reactions for albumin and to the biuret reaction. If the first are negative and the latter positive, the presence of peptone is evidently shown.

The author was able to show the existence of peptonuria from guaiacol in five cases.

Antifebrin given in the proportion of 3 grammes (45 grs.) in 24 hours, was also found to give rise to peptonuria. This latter drug was studied because, like guaiacol, it is eliminated in combination with sulphuric acid and, given in large doses, must cause a notable improvement of the system in sulphuric acid. Sodium salicylate was also found, when given in large doses, to occasionally give rise to peptonuria.

Peripheral Neuritis After Measles.—Monro (*Lancet*). Female servent, aged 30, previous history good, an abstainer from alcohol, had attack of measles in spring of 1893. Was in bed few days, but when attempting to work was disabled by pain in wrists and hands, and was obliged to rest for two months. Quite well in August. In September was taken with influenza, and in two days pains returned, extending from elbows to finger tips. Power diminished, especially in flexors; no wrist drop; tingling pains more severe at night and upon motion of hands; wrist-movements caused pain in digits; no muscular wasting found; local pain upon pressure of right radial nerve against radius; pain in thumb and outer fingers upon pressure of right median nerve; tenderness in palm between first and second metacarpal bones; middle and ring fingers especially painful. Left palm painful on pressure between first and second metacarpals; pressure upon ulnar nerve behind inner condyle caused pain in fingers also. Left less painful than right side. No tremor; slight swelling of hands alleged; no changes in skin or nails. Considerable electrical tenderness of skin at all points obscured results of electrical tests; but reactions of extensor muscles "were altered, both to galvanism and to faradism." Knee jerks normal. After experiencing her most severe pain, November 11, improvement began. Treatment: Continuous current semi weekly, with liniment of belladonna and glycerin. Practically well December 27, except that two fingers still painful. Patient reports that pain, weakness, swelling, were all more marked in the first attack (following the measles) than in the one seen and described by author.

Gowers does not mention multiple neuritis as a sequel of measles, unless acute ascending paralysis be the same as Ross suggested. Bury says that some cases of paralysis succeeding measles are probably due to multiple neuritis. Lop ("Des Paralysis Morbilleuses") does not recognize a neuritic type. No mention of a case resembling the one reported was made by any member of the Royal Medical and Chirurgical Society during the discussion of the nervous sequelæ of measles on November 28, 1893. Monro emphasizes the fact that in this case

two very similar attacks of neuritis followed two acute diseases which differ much in their characters. We have no similar history of other febrile diseases. Distribution of pain and weakness in this case does not correspond with any type of peripheral neuritis. If there were a special predisposition on the part of the nerves in this case, it is strange that the milder of the two attacks followed influenza—a disease which so often excites peripheral neuritis in very severe form.

The Probable Origin of the Red Blood-Corpuscles.—The supply of red blood-corpuscles is apparently maintained from the nucleated red blood-cells of the bone marrow, the structure of which is described by Dr. Robert Muir and Dr. W. B. Drummond in the *Journal of Anatomy and Physiology* (New York *Med. Jour.*). In the marrow of man and other mammals the supporting stroma is very slender, and at the periphery it is arranged in one or two layers of connective-tissue corpuscles with fibrils between. From these layers delicate nucleated filaments press inward and are connected with the blood-vessels and fat-cells. There are usually in the center of the marrow a single artery and a much larger vein. The branches of the artery terminate in what may be called arterial capillaries, and these empty into rather wide channels which may be termed venous capillaries, though they do not have a complete endothelial lining The bulk of the bone marrow is composed of spherical, colorless, granulated marrow cells. There are also many nucleated cells containing hemoglobin, which are larger than red blood-corpuscles, and are termed erythroblasts. Giant cells are found with a single lobulated nucleus appearing as many in one focus of the microscope. As the parenchyma is nearly cut off from the venous blood, the circulation through the marrow must be slow. Dr. W. H. Howell, of Johns Hopkins University, maintains that the marrow cells are embryonic cells whose function is to multiply by division and become nucleated red blood-cells. During their successive divisions the cells become smaller and pass from the type of the marrow cell to that of the nucleated red blood-corpuscle. But Dr. Muir considers that the marrow cells are of the leucocyte order. The red corpuscles found in the marrow substance have probably just lost their nuclei. Nucleated red corpuscles are not found in normal blood, but after severe hemorrhage in the human subject and in animals they may appear in the general circulation, in which case they stain more deeply with methyl blue than the ordinary red blood-corpuscle. Dr. Muir concludes that the nucleated red cells of the bone marrow are probably in free communication with the blood stream, but normally do not enter it, being retained in position by mutual cohesiveness, even after they have lost their nuclei. In this position they gradually acquire the physical properties of the adult red blood-corpuscles, and then pass into the flowing current. He reasons that after severe hemorrhage there occurs a dilution of the blood, in respect to the red corpuscles, and therefore the corpuscles are loosened in the vascular channels of the bone marrow where they are normally closely packed, and thus the normally stationary red cells may pass into the general circulation. The richness of the blood in corpuscles may be looked upon as determining the stability of the cellular arrangement in the marrow. Poverty in blood corpuscles may not only induce certain cells to enter the circulation, but also stimulate other cells to proliferate, as it is thoroughly well established that the multiplying cells become smaller and pass from the type of the marrow cells to that of the nucleated red blood-cell, which so closely resembles the red blood-corpuscle.

The Successful Treatment of Locomotor Ataxia by the Iodine Treatment.—Max Weiss, of Vienna, describes a case of advanced tabes, in which the connection between that disease and syphilis was very clear, thus lending additional support to the Erb–Fournier theory (New York *Polyclinic*). The case is especially noteworthy from the fact that a regular and steady specific treatment markedly and rapidly diminish pronounced objective and subjective tabetic symptoms, a few of these even disappearing entirely. The treatment consisted solely of rather large doses of iodide of sodium, increasing from 5 to 8 grammes (1¼ to 2 drachms) for several months. The patient was an engineer, 35 years old, who had never suffered from illness during childhood; in 1883 he acquired an indurated specific ulcer, with secondary symptoms. He was given twenty injections of corrosive sublimate and small doses of iodide of potassium; in July, 1884, a lingual ulcer developed, which underwent complete resolution after twenty-four injections of corrosive sublimate. Since that time there had been no specific eruption either on the body or the visible mucous membrane. In 1886 several attacks of nausea and vomiting occurred, each lasting about fourteen days, accompanied by severe pain in the back. In the autumn of 1887 renewed attacks of vomiting occurred early in the morning (gastric crises). From 1889 there were almost daily attacks of vomiting. Nutrition was much impaired and the body weight decreased. He suffered from lancinating pains over the entire surface of the skin, more particularly on the arms and legs, most frequent after a change of weather. In 1890 co-ordinate disturbances of standing and walking were first noticed, with paræsthesia of the toes, soles of the feet, and the two small fingers of each hand, diminished tactile sensibility in the epigastric region, and fatigue after the least attempt at walking. Constipation, cramp-like pains in the abdomen (intestinal crises), some retention of urine, and severe boring pains in the urethral canal were added to the other symptoms. In the spring of 1893 the sight was poor at a distance of from twenty to thirty steps, but there was no trouble in reading and writing. In August, 1893, the patient was submitted to a systematic iodine treatment. For the first two weeks he took daily 5 grammes (1¼ drachms) of diluted iodide of

sodium, no symptoms of iodism being observed. The daily dose was increased 2 grammes (31 grains), and for some time 3 grammes (46 grains). Within a month the daily gastric crises ceased suddenly, and have never since re-appeared; in September disturbances of co ordination diminished perceptibly, and in October, when the patient was taking 8 grammes (2 drachms) of iodide of sodium daily, and had already consumed the enormous quantity of 500 grammes (1 pound) in all, without any untoward symptoms, no evidences of ataxia were present. The cloudiness of vision had also disappeared, the lancinating pains occurred but seldom, and were much less severe than formerly. The patient, even after walking several hours, did not feel any fatigue. His appetite has greatly increased, and his weight has increased six kilos (12 pounds). Treatment is still being continued in daily doses of from 6 to 8 grammes (1½ to 2 drachms), with short intermissions. The paresthetic symptoms have almost entirely disappeared. The urethral crises and the weakness of the detrusors persisted longest, and systematic cross-galvanization of the lumbar portion of the spinal cord, in the region of the perineum and of the bladder, were resorted to, with internal administration of ergot and strychnine, the result being that for three weeks before the time of report the patient no longer complained of urinary disturbance or of pain in the urethra. Dr. Weiss regards the great improvement as due entirely to the treatment.

Weiss refers to a case of genuine syphilitic tabes, treated by Werner Stark (*Duodecim*, v. viii, p. 280), in which a like rapid and marked improvement followed the administration of the iodide of potassium in targe daily doses. The patient was a woman, aged 43, who had become infected by syphilis thirteen years previously and recovered without relapse. Five years ago the first indications of tabes appeared, the symptoms increasing in intensity until the patient was unable to walk. No disturbances of the digestive or urinary organs occurred. When the patient was first seen by Stark, in 1890, she was pale and thin; there was complete ataxia of the legs, analgesia and partial anesthesia of the skin, as well as weakness and atrophy of the muscles of the legs; the patellar reflex was absent. Psychic and ocular disturbances were not present. The patient had been discharged from hospital as incurable. Stark first gave 50 grammes (1½ ounces) in 12 ounces of water, tablespoonful three times a day—this was rapidly increased up to 200 grains of iodide a day—from this on perceptible improvement, anesthesia and ataxia disappeared, the muscular atrophy diminished. At this time of writing the patient had, for a year only, occasionally been taking the iodide of potassium, feeling stronger after each treatment.

Scorbutus in Infants.—Northrup and Crandall (N. Y. *Med. Jour.*) after the study of thirty-six carefully tabulated cases of this disease, come to the following conclusions:

1. Scurvy may appear at any period of infancy or early childhood, but is most common between the ninth and fourteenth months.

2. The lesions are hemorrhagic in character, due probab to diapedesis. The most characteristic are subperiosteal hemorrhages. Hemorrhages into the muscular tissue, into the skin and mucous membranes are more or less constant.

3. It occurs in every grade of the social scale, but is more frequently among the rich than among the poor. The neglected child who eats everything at the table may become rachitic or marasmic, but he obtains enough fresh food to protect him from scurvy. It very rarely occurs in asylums and hospitals, because in recent years feeding in such institutions has been more rational than in many private families.

4. Lack of fresh food is the most important cause. The use of the proprietary foods and condensed milk produces more scurvy than all other causes combined. Even fresh milk in small proportions is not sufficient to insure protection.

5. Anemia and malnutrition are almost invariably present. A peculiar sallow complexion is common.

6. Scurvy is frequently superadded to rachitis, but in a considerable number of cases no evidences of rachitis are present. So-called acute rickets is in most cases, probably in all, rickets complicated by scurvy.

7. Pain is a constant symptom; it develops early, and is usually intense.

8. A varying degree of immobility of the extremities is common, and is frequently so marked as to simulate paralysis. This pseudo paralysis disappears with the subsidence of the scorbutic symptoms.

9. Subcutaneous hemorrhages, as well as hemorrhages from the cavities of the body, are very common, but are not necessary to a diagnosis of scurvy.

10. The condition of the gums is characteristic. They are purplish, soft, spongy and bleeding and frequently show decided ulcerations. When the teeth have not been erupted, changes in the gums are usually slight or entirely absent.

11. Painful swelling of the lower extremities is the most constant symptom. The upper extremities are rarely involved. The thigh is affected more frequently than any other region.

12. Children suffering from scurvy commonly present the following symptoms: Anemia, intense pain on motion, spongy, bleeding gums, swelling of the lower extremities, usually the thigh. There may also be purpura or ecchymoses, discharge of blood from the various cavities of the body and pseudo-paralysis.

13. Scurvy, when untreated, is a very fatal disease; when recognized and properly treated, a rapid and complete cure is usually effected. The result of antiscorbutic treatment is, in fact, one of the most certain means of diagnosis.

14. Scurvy may be mistaken for rheumatism, stomatitis, rickets, sarcoma, osteitis and infantile paralysis.

15. Scurvy is a dietetic disease, and must be cured by

dietetic treatment. Fresh milk, beef-juice and orange-juice are the most effective remedies.

SURGERY.

Appendicitis, With Especial Reference to Its Treatment.—J. William White, in an address on appendicitis, delivered before the Surgical Section of the College of Physicians of Philadelphia (*Therapeutic Gazette*) reviewed many of the important points relating to the cause, course and diagnosis of appendicitis, and more especially to its treatment, about which great differences of opinion still exist in the profession.

These differences of opinion, it is remarked, are extraordinary, in view of the very frequent occurrence of the disease, and the large opportunity thereby offered for its careful study. A closer consideration of the subject must gradually tend to bring surgeons and physicians to a common ground.

The etiology is considered under (*a*) predisposing, and (*b*) exciting causes. Among the predisposing causes mentioned are the low vitality and feeble resistance that characterize organs which in the process of evolution have become functionless vestiges. In addition, the dependent position or the appendix, and its communication with that portion of the intestinal canal where inspissation of the contents first occurs, while at the same time it is removed from the direct fecal current, predispose to inflammatory attacks. The exciting causes are in the vast majority of cases either mechanical or bacterial (infective), the latter usually, perhaps, constantly, being a sequel of the former, while it may be the *fons et origo* of the disease. In addition, tubercular or other general disease is, in rare instances, the source of appendiceal trouble.

The anatomical relations of the appendix are interesting in this connection. The process is usually curved upon itself on account of the shortness of the mesentery. Along the free border of the mesentery runs a small artery, which is the only source of blood-supply to the appendix. Distention of the ileum with gas, or of the head of the colon with gas or fecal matter, causes tension of the mesentery of the vermiform process with increased torsion of the latter. This interferes with the blood-supply through the single vessel and, according to the degree of this interference, produces congestion and tumefaction, catarrhal inflammation, or ulceration or gangrene.

The bacterium coli commune is very constantly associated with appendicitis. The micro-organism is present in the alimentary tract in health, and becomes pathogenic and pyogenic when for any reason the integrity of the intestinal walls is lost. Thus, even a moderate constriction of the intestinal canal may enable the bacterium to penetrate its walls, while the virulency is much increased by any abnormal state, as diarrhea or constipation.

It is now known that foreign bodies are very rarely the cause of appendicitis. The study of a large number of cases shows that not more than 4 per cent of the cases are so produced. Fecal concretions have been found in 15 to 20 per cent of the cases, and although they may in some instances be the cause of lesions of the mucous membrane which permit of bacterial invasion, they perhaps infrequently bear an etiological relation to the disease in question.

The comparative immunity of the female to this disease (women are affected only one-fourth or one fifth as frequently as men) is explained by an additional blood-supply to the appendix through the appendiculo-ovarian ligament.

The usual symptoms of a mild attack of the catarrhal type are pain, at first diffuse, affecting the abdomen generally, and later localized entirely to the right iliac fossa, localized tenderness, most frequently at McBurney's point, vomiting, moderate fever, (99.5° to 101° F.), increased pulse-rate (90-101), and rigidity of the right rectus muscle.

The diagnosis must be made chiefly from stercoral typhlitis. The presence of a tumor at the very beginning of an attack of apparent appendicitis of mild type is the only symptom which can be considered as at all pointing to the latter condition. In doubtful cases it will be safer to consider the trouble appendicitis.

The treatment advised for a mild catarrhal case is as follows: Absolute rest should, of course, be enforced. Starvation; it is desirable in the acute attack that the patient should be given nothing but an occasional sip of water. The frequent inability of the stomach to retain food, and the certain inability of a portion of the intestinal tract to take care of the residue as well as the absolute necessity of avoiding all sources of local irritation, abundantly justify this recommendation. The local use of heat and cold and local depletion by means of leeches have about equal claims for employment. A preference is expressed, however, for heat or blood-letting. Objection is made to the use of blisters, iodine, and the various ointments, as they render the skin more or less unsuitable for operation, if this measure should become necessary. The author expresses the opinion that not enough attention has been paid to the "antiseptic" treatment of appendicitis.

If, at the end of forty-eight hours, or earlier, there is severe, sharp pain, increased tenderness and rigidity of the abdomen, and beginning tympany, either local or general, surgical interference offers by far the best chance for recovery. In the majority of the cases presenting these phenomena a perforation of the appendix wall has taken place, sufficient at least to permit of the passage of bacteria or their products. A case having reached this stage need not necessarily terminate fatally, but "there is absolutely no way of recognizing with any reasonable certainty which of these three events will follow: resolution and recovery; localized abscess, with

from 90 to 95 per cent of chances in the patient's favor; or general peritonitis with almost sure death if it is once well established. Hence the advice to interfere surgically.

Operation at this stage is usually easy. The incision should be two or three inches in length, placed obliquely with its center a little outside of McBurney's point. In removing the appendix, when possible, a peritoneal flap should be reflected, the mucous coat ligated with a circular ligature, the cut extremity touched with pure carbolic acid, the flap of peritoneum brought over the end, and closed with Lembert sutures. When the peritoneum has become thickened and brittle, the whole thickness of the appendix may be included in the ligature, and the stump cauterized with pure carbolic acid.

Drainage will rarely be necessary, and the danger of ventral hernia following is very remote.

In the event of operation being refused by the patient or the medical attendant, Dr. White has been led to await events with more equanimity—1. If the bowels are loose; 2. If the pain is dull and throbbing, rather than sharp and lancinating; 3. If the spot of greatest tenderness is not precisely at McBurney's point; 4. If vomiting is not marked; and 5. If, without marked change in the general condition, increased resistance, slight dullness, and the presence of a mass recognizable by palpation indicate that a localized abscess is forming shut off by adhesions from the general peritoneal cavity.

The period between the third and sixth days, if the symptoms do not ameliorate, is one of great anxiety, and the outcome very uncertain. As a rule, it is not a favorable time for operation, but the patient must be under close observation and operative measures employed if the indication arises.

Attention is called to the distinction between the conditions present in "chronic" and in "relapsing" appendicitis, and to the necessity of separating them in practice.

In conclusion, the author presents the following summary of his views on this subject:

1. The explanation of the great frequency of inflammation of the appendix is to be found in the following facts:

(*a*) It is a functionless structure of low vitality, removed from the direct fecal current; it has a scanty mesentery so attached to both cecum and ileum that it is easily stretched or twisted when they become distended; it derives its blood supply through a single vessel, the caliber of which is seriously interfered with or altogether occluded by anything which produces dragging upon the mesentery.

(*b*) In addition, there is almost always present a micro-organism—the *bacterium coli commune*—capable of great virulence when there is constriction of the appendix or lesions of its mucous coat or of its parietes.

2. The symptoms in a case of mild catarrhal appendicitis—general abdominal pain, umbilical pain, localized pain and tenderness on pressure in the right iliac fossa, vomiting, moderate fever, and slightly increased pulse rate—cannot at present with any certainty be distinguished from the symptoms, apparently precisely identical, which mark the onset of a case destined to be of the very gravest type.

3. It must be determined by future experience whether or not operation in every case of appendicitis, as soon as the diagnosis is made, would be attended by a lower mortality than would waiting for more definite symptoms indicating unmistakably the need of operative interference. At present such indication exists in every case if the onset is sudden and the symptoms markedly severe, and whenever in a mild case the symptoms are unrelieved at the end of forty-eight hours, or *a fortiori*, if at that time they are growing worse.

4. It must be determined by future experience whether cases seen from the third to the sixth day, which present indications of the beginning circumscription of the disease by adhesions, and which tend to the formation of localized abscesses, will do better with immediate operation with the risk of infecting this general peritoneal cavity, or with later operation when the circumscribing wall is stronger and less likely to be broken through. At present, operation is certainly indicated whenever a firm, slowly forming, well defined mass in the right iliac fossa is to be felt; or, on the other hand, when a sudden increase in the sharpness and the diffusion of the pain and tenderness points to perforation of the appendix or breaking down of the limiting adhesions.

5. In the beginning of general suppurative peritonitis, operation offers some hope of success. In the presence of general peritonitis with septic paresis of the intestines, operation has thus far been useless.

6. Recurrent appendicitis of mild type, like acute appendicitis, frequently results from digestive derangements. Several attacks may occur followed by entire and permanent recovery, but it is as yet impossible to differentiate these cases accurately from those which do not tend to spontaneous cure. Operation is certainly indicated whenever the attacks are very frequent.

7. Chronic relapsing appendicitis is characterized by the persistence of local symptoms during the intervals and by more or less failure of the general health. Operation is usually indicated.

8. In either the recurrent or the chronic relapsing variety operation should be advised according to the following indications formulated by Traves: whenever (*a*) the attacks have been very numerous; (*b*) the attacks are increasing in frequency and severity; (*c*) the last attack has been so severe as to place the patient's life in considerable danger; (*d*) the constant relapses have reduced the patient to the condition of a chronic invalid, and have rendered him unfit to follow any occupation; (*e*) owing to the persistence of certain local symptoms during the quiescent period, there is a probability that a collection of pus exists in or about the appendix.

A Case of Perineal Displacement of the Testicle.—Bilton Pollard (*Lancet*) reported an interesting case of ectopia perinealis of the scroto-femoral variety. The testicle was not very movable. Its spermatic cord could be traced upward to the external abdominal ring. An incision was made from just below the ring to the testicle. The testicle and cord with their coverings were then raised from their bed, as in the operation for castration, and turned upward as far as the external abdominal ring. An incision was next made into the lower part of the scrotum, and a new bed was prepared for the testicle there. A sinus forceps was then passed from this wound through the cellular tissue of the upper part of the scrotum to the upper part of the first incision near the external abdominal ring, and its blades were separated, so as to dilate a track for the artificial descent of the testicle. Through this track the testicle was pushed down to its fresh bed in the bottom of the scrotum. Both wounds were closed and healed by first intention. There was no possibility of the testicle returning to its former position. The patient left the hospital in ten days. He was seen seven and one-half years afterwards and was in perfect condition, the cremaster reflex being excited in the ordinary way. The child was one month old at the time of operation.

An Addition to Present Methods of Treating Large Congenital Fissures of the Hard Palate.—In an interesting article, with a report of the case of a child 5 years old, H. M. M. Milton, M.R.C.S. (*Lancet*), details a new method for treating cases of hare-lip and cleft-palate in which the deformity is due to a deficient approximation of the hard parts during fetal life; as opinions derived from the study of this single case he says.

1. That in cases of fissure of the hard palate, especially, perhaps, in those in which the fissure is complete, the non-approximation of the two maxillæ may be an important factor in the production of the gap.

2. That in such cases the approximation of the separated portions by forcible pressure may be possible. Such approximation is very simple in performance, is not likely to be harmful in its results, and may greatly facilitate the subsequent operation for complete union of the soft parts

3. It remains to be seen whether the forcible manipulation of the jaw is disadvantageous to the future development, and it may be that in some cases the approximation may entail so much deformity in the jaws as to greatly discount the possible advantages.

In the case under consideration he was led to believe that it was due to non approximation by the following considerations:

1. The separation between the two halves of the bifid uvula largely exceeded the width of any possible undivided organ.

2. The upper teeth overlapped the under teeth laterally to the extent of three lines, one either side.

3. The upper canines coincided when the jaws were closed with the first lower premolars.

4. The expansion of the alæ nasi was one and three-quarters times as great as in a normal child of the same stature.

5. The alveolar process of the intermaxillar bone projected four lines beyond that of the lower jaw and lay two lines higher than those of the superior maxilla. The author, by means of two forceps similar to lion jaw, succeeded by gentle yet forcible pressure in approximating the hard parts so that the greater part of the sides of the fissure was in apposition.

The snout was then pressed easily into place between the two maxillæ, and the whole was held in position by a strong wire passed in the groove between the teeth and the gums and passing posteriorly from the last premolar on the left side to the last on the right, and twisted in front to a sufficient tightness. The patient made a reactionless recovery from the operation, ate food readily, and at the end of thirty-eight days, when the wire was removed, the bones remained in position, and the final plastic operation was easily done.

The Absorption of Blood Clots in Situ—A New Treatment for Thrombosis.—Prof Sahli, of Berne, brought to the attention of the Eleventh Medical Congress at Rome some of his results from the use of extract of leeches and powdered leeches (New York *Polyclinic*). Experimentally Haycraft and Dickinson have shown that these extracts prevented the coagulation of the blood. The active principle is not affected by heat, it is not poisonous, easily dissolved in water and appears in the urine. Rabbits were anesthetized, the jugular vein divided, tied on its proximal ends: a bristle was inserted into the vessel to favor clot formation—taking twenty to thirty minutes. The head of the leech appears to contain the principle against coagulation, all the part behind the neck is worthless—one head will keep about one ounce of blood fluid. Experiment has shown that human blood is less active and requires less leech than animal. So that one hundred heads would act for a man of 150 pounds. The proposition is certainly worthy of extended trial for its very harmfulness is its best recommendation. As the kidneys readily free the system of the drug—its use would seem to be well founded in embolism, thrombosis, infarction, etc.

OBSTETRICS AND GYNECOLOGY.

Pernicious Hemorrhage from Uterus.—I have used Dioviburnia and I think it is the best preparation on the market; I have always obtained the best and most uniform results from its use, says E. A. Wood, of Syracuse, N. Y. One case of constant and pernicious hemorrhage from uterus that resisted every possible treatment by several other physicians, responded in

twenty-four hours. The hemorrhage stopped at once, and she proceeded to immediate recovery, and has never had a return of it.

She had taken fluid extract ergot until she became so weak from its depressing action on the heart that she was hardly able to walk. She had also been treated locally with electricity until the mucous membrane of the uterus had been cauterized and nearly destroyed. This is only one case out of many. When I told her former physician the remedy I had used they would not believe me and insisted that I had used something else in connection with the Dioviburnia.

The main trouble in their treatment of the case was the mistake of diagnosing the cause of the hemorrhage Also another cause—they would not be guilty of using a semi-proprietary preparation, deeming it beneath their professional (?) dignity to do so. But they are losing cases daily, while I and some of my professional brethren who are up to the times, and using anything "new" that is better than the "old," are gaining new patients and increasing reputation.

NOTES AND ITEMS

Small-Pox.—During the month of July not a case of small-pox was reported in Tennessee. It is, however, scattered about in other States with sufficient virulence and persistentce to render the extreme of vigilance necessary in Tennessee. In Chicago it still prevails. The beautiful city of Milwaukee is greatly incommoded by its presence and the panic thus occasioned.

In the State of Wisconsin small-pox broke out in January last. Up to July 30 it had appeared in twenty-nine places, and then existed in five places. The total number of cases reported was 135, of which 33 were fatal.

Circumcision and Allied Rites.—In the *Bulletins de la Societe d'Anthropologie de Paris* (N. Y. *Med. Jour.*) Zaborowki gives a summary of various researches on the origin and different forms of circumcision. This ceremony, practiced by numerous tribes, non-Semitic as well as Semitic, is very ancient. It was carried out at the advent of puberty, the beginning of sexual adult life, the operation being analogous in both sexes. The adolescent thus entered formally into the social existence of his or her tribe. Of similar import may be regarded the initiations to a responsible status in Rome, the "first communion," the "coming of age," and the grave procedure by which, among the Koreans, a boy "becomes a man," and changes his style of dress accordingly. The "muscle dance," of recent notoriety, is only one part of the festivities which, among many peoples of Asiatic origin, usually accompany this authoritative announcement of a person's arrival at maturity. Circumcision itself has since been performed at different ages, from that of eight days to that of twenty or more years, for reasons of religious significance or of convenience, or because of some local modifying influence—the original meaning of the act having become obscured in the long course of time and in its transmission.

Chloroform Dangerous to Meat-Eaters.—The geographical distribution of accidental deaths from chloroform is peculiar, according to Dr. Lauder Brunton, as reported by the *British Medical Journal*. Practitioners favor chloroform in the southern United States, in Egypt and in India, while in London and the northern United States they dislike it. There has been a marked increase in the deaths under chloroform administration during the last few years in Great Britain. During these years the feeding of the population has been changed to an enormous extent by the increase in meat eating due to the importation of low priced refrigerated meats. Edinburgh has been an exception to the rule that the physicians of the colder cities do not prefer chloroform, but latterly the deaths from its use in that city have been more frequent, and gout has become less rare, both of which results may be due to the much-increased use of butcher's meat. A Russion observer has found that if the urine contains alkaloids, trouble may be expected from the administration of chloroform. This may explain why the cases which give the most trouble usually occur in strong, healthy men, who have been on a full diet, and are thus likely to have stored in their tissues a quantity of such alkaloidal products as result from meat-eating. These substances, accumulating in the blood during anesthesia, may act as a poison to cause heart failure, while chloroform, administered in the ordinary manner, tends to paralyze the respiratory center before the heart is weakened.

Prophylaxis of Suicide.—Are gouty and rheumatic subjects less frequently the victims of suicide than those of the opposite diathesis? Statistics on this point are needed to complement the theory that the relation of mental depression and suicide to temperature is that of the effect of temperature on urate excretion. Alexander Haig, who has devoted much time to the study of this subject, now claims that his researches show an annual fluctuation in the excretion of uric acid, with its maximum in the warm months, April to July, and its minimum in the cold months, November to March; and he had previously demonstrated that an excess of uric acid in the blood causes high arterial tension profoundly affecting the intra-cranial circulation. Applying these deductions to the recent epidemic of suicide in France, coincident with the onset of hot weather, he finds the relation very interesting—"because it is just with the onset of the heat and the first great fall in the acidity of the urine that the great rush of stored uric acid into the blood will take place. Then,

again, 6 A.M. to 12 noon—the most frequent time for the fatal act—is also just the time of the largest daily excretion of uric acid—*i.e.*, the time when there is most of it passing through the blood—and the facts I have collected will, I think, fully bear out this observation." The prophylactic lesson of which is, to those of suicidal tendencies: Keep the renal secretion acid and the blood alkalin.—*Journal of the American Medical Association.*

Reminiscences of Hyrtl.—A correspondent of the *Lancet* furnishes some reminiscences of the late Prof. Hyrtl, the famous anatomist who has just died in Vienna. His sympathy with student life is well known and many stories in this connection are told of him. A Jewish medical student named Jerusalem was being examined, and in the hall there was waiting a small crowd of his co religionists, when Hyrtl came out from the examination chamber. He was immediately surrounded by the crowd of young students, who asked him the fate of their comrade Jerusalem. Hyrtl, with a plaintive voice and sympathetically shaking his head, said, "Weep, O Israel; Jerusalem has fallen." Once a student was unable to reply to one single question at his examination. Hyrtl then asked him, "Perhaps you can tell me where you live?" The student named the street, of which Hyrtl professed his ignorance, and said: "You see how science is divided; you know nothing of anatomy and I do not know the locality where you live." An anecdote respecting his marrage is worth repeating. It was in the year 1866 when one day Hyrtl approached the porter of the Anatomical Institute, Andrew Swetlin by name. "Andrew, have you a prayer-book handy?" asked Prof. Hyrtl. Andrew fetched the book, and Hyrtl went away. An hour later he retrned and handed to the porter the prayer book. The porter, unable to suppress his curiosity, asked: "You do not need it any more, Sir? Whereupon Hyrtl replied: "No thanks; I only needed it for a moment. I have just been at my own wedding."

The Asiatic Pest.—Recent information from Europe shows very clearly that the danger of a pandemic visitation of cholera has by no means passed by. Over a large portion of Russia it prevails. At St. Petersburg it has assumed alarming proportions, being much more intense and fatal than during the outbreaks of the two previous years. The authorities, as usual, showed at first much apathy, but are now roused to energetic action. The Sanitary Commission is sitting continuously to meet every emergency.

In Northeastern Prussia the disease is widely scattered. In Germany and The Netherlands new cases have appeared. It holds on in Belgium. In the Austrian province of Galicia there are centers of infection. For all these countries the outlook is alarming, far more so than at this time last year. Indeed, it would seem that the history of 1892 is to be repeated by the outbreak of a wide-extended and fatal epidemic in just that portion of Europe which has for years sent large numbers of emigrants to America. It is very clear that the utmost vigilance should be exercised by our representatives in Europe, and by all the authorities in our numerous maritime cities.

It is equally plain that this is no time for careless sanitation in our interior cities. Ten years ago in July, when the great epidemic broke out in Marseilles, and thence spread over South France, Spain and Italy, throughout the United States great alarm prevailed. Everywhere there was a sanitary revival, and really great benefit to the daily health and comfort of multitudes was the result. Such a spurt would be in season now; for truly, if this hated pest should overleap the barriers now holding it back, and get a foothold in any of our cities, the scenes of 1866 and 1873 would be repeated on an enlarged scale. It may be safely affirmed, that notwithstanding much municipal boasting, not a city in Tennessee is in fit condition to meet an invasion of cholera or yellow fever. Our people rely too much on distant quarantine, and are culpably negligent of home sanitation.—Tennessee *State Board of Health Bulletin.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Rupture of the Bladder in a Mare.

BY JOHN BARR, M R.C.V.S., HALVERGATE.

The following case occurred in a pony mare, and as there are several interesting points in connection therewith I send these notes for publication.

HISTORY.—The pony was bought by one of my clients during the last week of March. She was ten or eleven years old and heavy in foal. Vendor states that she had been hard worked for six years, and to the best of his knowledge had never been unwell until the week before sale, when she was "griped."

Whether this statement is strictly correct I am unable to say, but the fact remains that from the time of purchase till the time of death (May 3) the mare was frequently "griped."

On April 2, I was called in for the first time, and found the patient showing symptoms of colic. I was informed that she had been in pain for about three hours and that two colic drinks had been administered. Examination *per rectum* revealed the colon impacted

with a mass of ingesta of a doughy consistence. I did not on this occasion discover anything wrong in the bladder, but the presence of the feet of the foal (which lay far back) is sufficient to account for this oversight. On this and on every subsequent occasion one predominant symptom was continual and violent pawing with one or other of the fore feet, and this, even keeping in view the state of the bowels, led me to believe that the stomach was to a great extent the seat of the mischief.

The treatment on this occasion consisted of a purgative ball followed by stimulants composed of ammon. carb. in solution.

From the former I did not fear any untoward result, as the mare was due to foal, and the latter were given mainly with a view to prevent tympanites. With this treatment the pain diminished but did not actually cease till the physic ball had operated.

During the three weeks following the mare was slightly griped on several occasions, and, as before, the predominant symptom was pawing with the fore feet. It is important to notice that during these attacks there was no evidence of any unusual inclination to urinate, or difficulty in the act, but since the death of the pony the owner has informed me that "he always thought she had too much wriggling about when making her water."

On April 27 the mare foaled, and on the following day I was, called in to attend the foal for constipation. I then paid particular attention to the mare and thought she looked remarkably well.

Late in the afternoon, May 3, I was again called in to attend the mare, and found her in a very sorry plight. This time she had been in pain from 11 A.M. At first the symptoms had been similar to those of previous attacks, and the owner having some of my "drinks" by him administered two or three in the hopes of giving relief.

Towards 4 P M. I arrived, and after a careful examination came to the conclusion that the patient was in a dying condition. I again explored *per rectum*, and immediately discovered the tumor in the bladder, but thought it was a calculus. The bladder was empty, but this fact did not strike me at the time as being of importance. With the exception of a little tympanites the bowels appeared normal.

The pain being very severe I administered chloral hydrate hypodermically and left some drinks composed of the same.

On visiting the patient about 10 P M. I found her in intense pain and bathed in perspiration. Another examination *per rectum* revealed the bladder still empty, and the mare not having voided any urine since my previous visit I expressed the opinion that the bladder had ruptured. The tumor was situated on the under side of the bladder close to the neck, and was movable to the extent of about 2 inches. On passing my finger into the urethra I appeared to touch it. Patient died about 2 A M. the following morning.

AUTOPSY.—When the abdomen was opened a quantity of fluid (about 2 gallons) escaped. The peritoneum was inflamed throughout the lower half of the cavity, and there was an abrupt termination to the inflamed parts. The level of the line marking the termination of the inflammation was the same on both sides, and this level corresponded with that marking the termination of the inflammation on the visceral peritoneum. This no doubt indicated the height to which the fluid in the cavity had risen.

The stomach was enormously distended with food.

On requesting the slaughterer to remove the bladder, he discovered the tumor and unfortunately cut it away in a haphazard manner. It was oval in shape, with a long diameter of about 3 inches. Its consistence was firm, and on section the greater part of it appeared to have undergone a dry, firm necrosis. At its periphery it was obviously composed of fibrous tissue.

The conclusions I have arrived at are:

1. That the stomach was the primary cause of the colic.

2. That the colic caused retention of urine (a frequent occurrence).

3. That, once the bladder had become too full the tumor was floated up against the opening of the urethra, thereby occluding the passage of urine and finally causing the rupture. This I considered occurred before 4 P.M. when I first saw the patient in her dying illness.—*Jour. of Comp. Path. and Ther.*

Suppurative Diseases of Joints.

The *Review Veterinaire* of February reports two very interesting cases from the clinics of the Veterinary School of Toulouse, showing the great advantages and rapid results that were obtained by the use of the Van Swieten solution in the treatment of suppurative diseases of joints. The first case which occurred in the service of Prof. Mauri was one of suppurative traumatic arthritis of the fetlock, which from the moment the horse received his injuries to the time he was shown to the clinic, some fifteen days, had gradually grown worse, and was in the most serious condition, with excessive lameness, escape of diseased synovia, lancinating pains, general reacting symptoms, etc. The treatment consisted in free incisions of the fistulous tracks, the application of a coat of blistering ointment all around the joint as a counter-irritant and repeated injections of the Van Swieten solution (three quarts per day) every two hours. After four days great amelioration was manifested. Five days later the discharge had entirely subsided, the wound was almost all healed, the lameness rapidly disappearing, and after a short while the animal returned to the owner.

The second case was that of an acute synovitis following a wound of the sheath of the tendons of the anterior extension of the metacarpus. Subsequent to a fall forward, in which a mare had injured her left knee, the parts had become inflamed and swollen; there was

a little wound in front of the knee from which synovia escaped; lameness quite severe. The treatment consisted in free opening of the fistulous tract to allow the pus to escape, through antiseptic cleanliness of the parts with the Van Swieten solution, and as perfect immobility as possible of the regions enveloping it, with astringent poultices of chalk and vinegar. In five days the synovial escape had ceased, the swelling returned almost to its normal condition, lameness had disappeared, the cutaneous wound was rapidly cicatrizing. In two days she was discharged as cured.—Extract in *Am. Vet. Rev.* from *Rev. Vet.*

Nux Vomica Poisoning in Horses.

I am indebted to Mr. Sherren, veterinary student, for the clinical history of the following cases, which I deem worthy of record, as indicating the possibilities of disease arising from contamination of feeding stuffs. The subjects, nine cab horses, left in good health in the evening, were found on the following morning in a remarkably excitable condition. On being approached, they appeared much startled; clonic spasms of the muscles, and in some cases rigidity, giving the impression of tetanus, were noticed. In two there were indications of abdominal pain. The breathing was labored and the pulse accelerated. In the case of a well bred chestnut gelding, apparently the most affected, the sexual organs were excited, the penis erected, opisthotonos well marked, the eyeballs much protruded, the limbs very stiff, and some muscles quivering. Strychnia poisoning was diagnosed, and every animal was treated with rectal injections of decoction of tobacco. In course of half an hour the symptoms began to subside, and in the majority had passed off in twelve hours, though in two cases they remained for two days.

On making an examination of the fodder, Mr. Sherren discovered numbers of nux vomica beans and other foreign bodies among the oats in the mangers and in the sacks as they were purchased.

A sample of the feeding stuff was then sent to me. In it I discovered a seed of nux vomica, a number of castor seeds, chopped straw, vetches, stones, and some seeds or fruits unknown to me. I sought the assistance of Mr. George Murray, Lecturer on Botany at the College, who kindly supplied me with the following information. "This is the dirtiest sample I have seen; it contains the seed of nux vomica, a number of ricinus (not communis) or jatropha, which is closely allied, together with the oats, straw, maize, vetches, stones, indurated albumen of some fruit we cannot determine, and two fruits of Terminalia Chebulia (known as myrobalans and imported by calico printers). The nux vomica and the fruits like ricinus are the only active ones I find, but how they come to be amongst oats is mysterious; they certainly do not grow together."

I am informed that the bulk of oats from which the poisonous lot had been purchased was found to contain the same noxious materials, and that they are believed by the corn dealer to have come from Turkey. It is difficult to account for the presence of the aforenamed with the oats, unless by accident the mixture took place on board ship or elsewhere during transit.—*Journal of Comp. Path. and Ther.*

FORMULÆ

Typhoid Fever.

℞ Sennine,
Phenacetine,
Sacch. alb., - - - - - - - - aa ℥ss.
M. f. pulv. Divide in dos. No. 10.
Sig. One powder every four hours.

Inflamed Tendons.

℞ Sodii salicylat., - - - - - - - - ℥j.
Morph. muriat., - - - - - - - - gr.ss.
Aq. menth. pip., - - - - - - - - fℨiv.
M.
Sig. Tablespoonful every three hours.

℞ Tinct. iodi, - - - - - - - - - ℥j.
Tinct belladonnæ, - - - - - - ℥j.
M.
Sig. Apply externally.

Pemphigus.

℞ Potass. iodid., - - - - - - - - ℥j.
Lig. potass. arsenit., - - - - - fℨij.
Aq. destillat., - - - - - - - - fℨiij.
Syr. sarsaparill. comp., - - - - - fℨj.
M.
Sig. Teaspoonful three times a day after meals.

Prickly-Heat.

℞ Hydrarg. chlorat. mite., - - - - - gr.j.
Sodii bicarb., - - - - - - - - gr.v.
Sacch. lactis, - - - - - - - - ℈j.
M. f. pulv. Divide in dos. No. x.
Sig. One powder every two hours.

℞ Zinc. oxydat. pulv.,
Amyl. pulv.,
Lycopodii, - - - - - - - - aa ℥ss.
Ol. bergamott., - - - - - - - - gtt.v.
M.
Sig. Use as a dusting powder.

Bronchitis.

℞ Chinin. sulphuric., - - - - - - - ℥ss.
Pulv. doveri, - - - - - - - - ℈j.
Ammon. chlorat., - - - - - - - gr.xv.
Sacch. alb., - - - - - - - - ℈j.
M. f. pulv. Divide in dos. No. x.
Sig. One powder four times a day.

Gastralgia.

℞ Cocain. hydrochlor., - - - - - - gr.j.
Codein. sulph., - - - - - - - - gr.ij.
Menthol, - - - - - - - - - gr.vj.
Sacch. alb., - - - - - - - - ℈j.
M. f. pulv. Divide in dos. No. 6.
Sig. One powder every hour till relieved.

Acute Mania.

℞ Chloralhydrate, - - - - - - - - ʒj.
Neurosine, - - - - - - - - ʒij.
M.
Sig. Teaspoonful at once and repeat dose in an hour if necessary.

Tympanitis.

℞ Carbon. ligni pulv., - - - - - - - - ʒj.
Magnes. calcinat., - - - - - - - ʒij.
Saccharine, - - - - - - - - - gr.v.
M. f. pulv.
Sig. Teaspoonful when required.

Amenorrhea.

℞ Pilul. Chalybeate (Warner).
Sig. Two pills three times a day.

℞ Dioviburnia, - - - - - - - - fʒiv.
Ferr. citric. ammoniat., - - - - - - - ʒj.
M.
Sig. Teaspoonful three times a day.

Rudy's Pile Suppository

is guaranteed to cure Piles and Constipation, or money refunded. Fifty cents per box. Send two stamps for Circular and Free Sample to MARTIN RUDY, Registered Pharmacist, Lancaster, Pa. No Postals answered. For sale by all first-class druggists everywhere. Meyer Bro's Drug Co., Wholesale Agents, St. Louis, Mo.

"I HAVE EMPLOYED fluid extract Erythroxylon Coca with success in several cases of gastric disturbance, arising from excessive indulgence in beer and alcoholic drink—a condition called "biliousness" by drinking men. I have also found it useful in cases of dyspepsia, accompanied by eructation of gas after eating. It seems to possess decided tonic powers in arousing the functions of the stomach to activity." —Dr. Edward P. Vollum, U. S. A., in *Therapeutic Gazette.*

CONNERSVILLE, IND., December 15, 1893.
THE S. B. MEDICINE CO., South Bend, Ind.—
You will please send me two dollars worth of Caffacemon tablets, the same as the sample you sent me a short time since. Please find postal note enclosed. I have used the Caffacemon and find the results highly satisfactory.
DR. V. H. GREGG.

FROM Chas. Milton Buchanan, M.D., Professor of Chemistry, National University, Washington, D. C., and Author of the late work, "Antisepsis and Antiseptics": "I have used Sennine quite frequently as a dry dressing in various cases in minor surgery and have found it very efficacious—in some cases even more so than the much vaunted Aristol.

MESSRS. WARNER & CO.—
Gentlemem—The Ingluvin was received in due season, fairly tested in a severe case of Gastritis, and gave perfect satisfaction. For Indigestion, Sour Stomach and all kinds of Vomiting, Ingluvin, in my opinion, has no equal. I speak from a practical knowledge of its intrinsic merits.
DR. F. W. OLIVER, Union, Iowa.

FENTON, MO., March 3, 1894.
COOPER PHARMACY CO., St. Louis Mo.—
Gentlemen—In answer to your inquiry will say that I have used your Valerianate of Sparteine Compound in one obstinate case of Asthma with a very satisfactory result, and while a single case amounts to very little in the way of establishing the merits of a remedy, the effect was too apparent and permanent to have been a mere coincidence.
E. J. THURMAN, M.D.

DIOS CHEMICAL CO., St. Louis, Mo.—
Gentlemen—Allow me to thank you for your sample of Sennine. It cured an indolent ulcer on a penis from circumcision which had refused to heal under all the various things recommended. I feel that it is the best antiseptic in use.
A. P. GRIFFITH, M.D., Jasper, Tenn.

ABBOTT ALKALOIDAL CO—
Gentlemen—Enclosed please find order for granules. I have used the various granules made at home and abroad, and I find yours the very best, "Chantaud's" not excepted. Keep them to their present standard, and if once used, others will never be substituted. J. T. YOURTREE, M.D.

EPILEPSY.—Hammond, Lauder, Brunton and Allen McLane Hamilton all declare that the Bromides of Potassium, Sodium, Ammonium and the Bromide of Zinc "stand preeminent among the remedies for Epilepsy." NEUROSINE contains only the C. P. Bromides and can be given indefinitely without deranging the digestion. Dose, one teaspoonful three or four times a day.

CODLIVER GLYCERINE is a remedy for all climates and all seasons. Try it on your old chronics, it infuses new life.

IN the TREATMENT of nervous diseases and general debility, McArthur's Syrup Hypophosphites demonstrates its restorative powers. Here it is not the stimulating action of the remedies usually classed as tonics that is needed. The organic powers of the system are already taxed to their utmost ability to carry on the physiological processes of life. The Hypophosphites of Lime and Soda gives the much-needed effect in these conditions—not that of a stimulant by irritation, but that of a true nutriment to the starving tissues. Its tonic effects are permanent, as they are the effects of a richer blood supply, bringing healthy food and oxygen to the tissues. Thus the patient is gradually brought up to his normal condition.

PHILLIP'S COD LIVER OIL EMULSION.—Many physicians have felt compelled to abandon the use of Emulsions of Cod Liver Oil because the natural conditions of the oil were so changed in the process of emulsionizing as to naturally impair its medicinal properties, or because in many of them the proportion of oil was so small as to necessitate the introduction of large quantities of the accompanying ingredients in order to secure the ingestion of a given quantity of oil. Every physician at the same time recognizes the existence of a large proportion of patients in which the taking of plain oil is a physical impossibility.

It is just here that the Phillip's Emulsion comes to the aid of the physician and offers irrefutable evidence that a perfect emulsion is possible. Herein is presented a full fifty per cent of highest quality oil in permanent and unsaponified condition, yet so microscopically subdivided as to be miscible in milk, water and other fluids and in condition for immediate assimilation.

The rapidity with which it is absorbed renders it free from nauseous eructations and the Phosphates in combination add materially to its medicinal value.

MIGRAINE.—This distressing malady can be promptly relieved by the use of NEUROSINE, whose virtues are due to the pure Bromides with Cannabis Indica and Cascara Sagrada in combination with wholesome stomachics. See formula on sample bottles.

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MEDICAL REVIEW.

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ORIGINAL ARTICLES

Appendicectomy: Three Instructive Cases.

BY G G. COTTAM, M.D, ROCK RAPIDS, IOWA,

Late Resident House Surgeon to St. Louis Female Hospital, and to Rebekah Hospital, St. Louis, Mo.

Pericecal inflammation, according to Mayo Robson, is due to:

(*a*) Appendicitis without suppuration dependent on ulceration or catarrh, and producing local peritonitis which has a tendency to resolution, but which is also liable to recur, and

(*b*) Perforating appendicitis, ending in suppuration and producing either a local abscess or diffuse peritonitis. (*London Lancet*, February 13, 1893).

This category covers all but complicated cases and is preferable on account of its simplicity. More detailed is that of Schede, who classifies as follows:

(*a*) Typhlitis with unimpaired integrity of the walls of the vermiform appendix, only temporary obstruction taking place.

(*b*) Typhlitis with injury to the walls.

(*c*) Acute inflammation with or without perforation.

(*d*) Complicated cases. (*Ann. Univ. Med. Sciences*, Vol. III, C. 69, 1893).

Keen, Stimson, Weir, Mikulicz, Quenu and a host of other observers have multiplied subdivisions of this subject, but for clinical purposes those of Schede and Robson are all-sufficient.

With these prefatory notes I present the following illustrative cases:

CASE I.—Ida C., aged 22. *Perforative Appendicitis Followed by Diffuse Septic Peritonitis. Laparotomy in Extremis. Death.*

This was a hospital case. Admitted February 25, 1894. The patient complained chiefly of general feelings of malaise, with dull pains in the abdomen. She was recently delivered (February 4) of a full term child. The lochia serosa had practically ceased. The next day (February 26) she was examined in clinic, but no lesion referable to the uterus or appendages could be detected. Pain more localized in right iliac fossa. (Evening temperature, 100.8 °F.; pulse, 110).

February 27. Tympanites marked. Patient lay in bed with right knee and hip flexed. Abdomen protuberant and pain constant, *McBurney's point well marked.* (Morning temperature, 99°; evening temperature 101°; pulse as preceding day).

February 28. Bowels thus far constipated. Tongue coated and dry. Given soap and water enema with good result. Pain area more diffused. (Morning temperature, 100°; evening temperature, 102°; pulse 110 to 118).

March 1. Vomited once in morning. Anorexia. Tongue still furred. She had four diarrheal evacuations during the day. Distinct fluid effusion into peritoneal cavity. She seemed to get most relief from pain by occupying the ventral decubitus. (The diagnosis of appendicitis with incipient peritonitis seemed well established at this stage. In view of the fact that the patient's condition was growing worse from hour to hour, operation was suggested by myself, but not sustained in consultation).

March 2. Symptoms aggravated. Patient had two diarrheal passages during the preceding night.

Introduction of a fine trocar in the median line demonstrated the presence of turbid fluid in the peritoneal cavity. Under the microscope the specimen was found to contain pus-cells in large numbers. The patient's pulse was 132, temperature 100.4°. While not actually in collapse, that condition seemed imminent. Operation was now deemed imperative, so with the assistance of Dr. Dudley Buck and Dr. A. S. J. Smith, of the Hospital Staff, I performed abdominal section in the right linea semilunaris, with an incision 5 cm. in length. The intestines were firmly matted together with a fibrinous exudate and intensely congested. A large amount of turbid fluid was present. After flushing out the peritoneal cavity with hot Thiersch's solutions, the appendix was examined and found to be the seat of recent ulcerative perforation which had become agglutinated over. The appendix and its mesentery were encircled with a Staffordshire knot, tied close to the cecal attachment and excised. The abdominal walls were then coaptated with through-and-through silk sutures, a straight glass drainage-tube being inserted in the distal angle of the wound.

The shock was profound. Continued stimulation with strychnine and the external application of heat failed to bring about reaction. The woman died eighteen hours after being removed from the operating table. As might be expected, the necropsy did not add anything to the knowledge gained at the time the abdomen was first opened.

CASE II.—Flora D., aged 20. *Relapsing Catarrhal Appendicitis. Laparotomy. Recovery.*

This patient had a number of attacks before coming under my notice. Generally they would recur every five or six weeks, necessitating from to two five days' confinement in bed. Latterly they came at shorter intervals, ten days apart being the usual degree of frequency. During a seizure the temperature did not exceed 100°, while the pulse remained at 75 to 90. Thus there was no indication at any time of suppuration. The onset was always sudden and characterized by acute pain in the right side, radiating from the right hypochondriac region. I desire to emphasize this point as a similar occurrence has been described by Keen, in whose case the pain area was "just under the border of the liver and about an inch inside of the anterior superior spine." (*Buffalo Med. and. Surg. Journal*, December, 1892, quoted in *Ann. Univ. Med. Sciences*, Vol. III, 1892). In my case so closely did the pain symptoms simulate those of hepatic colic that it was no easy matter for me to decide where to place my initial incision.

But the fact that at no time had there been a trace of cholemia, clay-colored stools or other concomitants of obstructive cholelithiasis, while furred tongue and constipation were common, decided the diagnosis in favor of catarrhal appendicitis.

After witnessing several of these attacks and observing their tendency to increase in severity, and moreover not knowing how soon the case might terminate in suppuration, I placed the patient on a course of preparatory treatment (laxation, nutrition, diet, etc.), for operation.

I performed laparotomy on June 18, 1894, assisted by Dr. Wallace, of Rock Rapids, and Dr. Amsberry, of Lester. The anesthetic was administered by my assistant, Mr. Wyckoff. An incision 5 cm. long was made just internal and parallel to the right semilunar line in the iliac region. Much adipose tissue was encountered. On dividing the peritoneum a loop of the ileum presented. Two fingers easily brought into the wound the head of the cecum attached to which was the appendix, indurated and atrophied. Its mesentery was transfixed with a silk ligature, the whole appendage tied with a Staffordshire knot and excised. No invagination was attempted, the stump being merely seared with 95 per cent carbolic acid to destroy infection from the canal. The abdomen was closed with interrupted silk sutures and the line of incision sealed with aristol collodion. Recovery took place without an untoward symptom pulse never exceeded 78 during convalescence and the temperature rarely went above normal. The patient was able to sit up in a chair on the tenth day, and now, three months after the operation, is in robust health.

An examination of the specimen removed revealed the presence of two fecal concretions which had undoubtedly acted as irritants. There was no abscess formation, but the whole peritoneal surface of the organ was covered with an organized plastic exudate.

CASE III.—Sine M. L, aged 37. *Relapsing Appendicitis with Constriction from Ancient Perityphlitis. Acute Exacerbation followed by Diffuse Peritonitis. Laparotomy. Death.*

I was called at midnight June 26, 1894, to see this patient, a farmer's wife, living two miles in the country, presenting the following history: Two years ago she was seized with a sudden pain in the right side accompanied with vomiting and extreme prostration. The attack lasted but a few days, subsiding under medical treatment. Since that time she had been made aware of the persistence of something abnormal by frequent attacks of pain, though not of sufficient severity to demand confinement in bed.

On the day preceding that on which I saw her she had felt unusually well until noon when her menstrual flow had disappeared. This continued until the following morning when it ceased abruptly and an excruciating pain in the right side set in, speedily followed by vomiting. Her bowels moved once. The symptoms continued to increase in severity and when I saw her for the first time at midnight she presented this condition: Pulse, 112, hard and regular; temperature, 101.4; facial expression anxious; tongue furred and moist; right knee flexed on abdomen. There was extreme tenderness in the right iliac fossa; none in the left. She was vomiting every few minutes and the ejecta were quasi-fecular in character.

I diagnosed the case acute appendicitis, and had the circumstances been favorable would have operated then and there. I left a few sedative powders and arranged to return in the morning, when I saw the patient in consultation with my partner, Dr. Wallace. We found the condition even graver than on the preceding night. The pain had spread to the right side, so that the entire abdomen was sensitive to pressure. Her pulse was 120 and temperature 100.6°. We agreed on the diagnosis and question of operation, though the case seemed tending to a fatal issue.

The abdomen was therefore opened at 2:30 P M. on the same day, with an incision 7.5 cm. long in the right linea semilunaris. Omentum, intestines and mesentery intensely injected, but free from pus. Digital exploration failed to locate the appendix at first, but finally it was found incarcerated by bands of organized lymph in a pocket on the posterior aspect of the cecum.

All constricting bands were broken and the appendix being found to be the seat of pathological changes was ligated as in the preceding cases and removed. The entire posterior surface of the caput cœci was bound down by these bands.

Extensive handling having been employed a gauze drain was inserted in the distal end of the wound, and through-and through sutures applied to the rest of its extent. The operation was rather protracted owing to the difficulty experienced in finding and freeing the appendix, but such viscera as were exposed were protected by hot chloride towels, thereby reducing the shock to a minimum. Immediately after being put to bed the pulse was full and strong at 110. Towards evening the pulse increased to 140, the temperature being 103.2°. There was no vomiting worth mentioning, an occasional retch from chloroform irritation being the nearest approach. Even this disappeared before the next morning, when, at 8 A.M., her pulse was 120 and temperature 101.2°. The gauze drain was removed at 2 P.M. the same afternoon and a fresh one substituted. The abdominal symptoms gradually mitigated during the next twenty four hours No vomiting occurred and the pulse and temperature kept within a safe limit. We were beginning to feel hopeful, when at 7 P.M. on the third day symptoms of intense shock appeared. The pulse, thready and irregular, became almost uncountable. Acute maniacal delirium with high temperature abruptly followed, the patient making frantic attempts to bite, scratch, kick and otherwise injure those who tried to restrain her. This was the form of shock that Travers named "prostration with excitement." Of it Ransohoff says: "It differs from the more acute variety chiefly in the psychic phenomena. While consciousness lasts the patient is wild with anxiety. He is forever changing his position, struggling for air. * * * Usually delirium of a muttering or violent kind soon supervenes, and the scene is ended in coma." (*System of Pract. Therapeutics*, ed. Hare, Vol. III, p. 475; article "Shock.")

I am inclined to attribute the sudden change for the worse in the case to the formation of pus in the abdomen and its subsequent absorption. As a complication of peritonitis this was the first instance out of a large number of cases in my experience in which delirium occurred.

Death was so close at hand that the only assistance we could render was to calm the delirium with hypodermics of morphine, thus inducing coma and permitting euthanasia.

The appendix showed plainly the traces of former inflammatory deposits. Stenosis of the distal half was marked, reducing the lumen of that portion by fully one-half of its original diameter.

Appendicitis obliterans would therefore be a more fitting title for the pathological condition in this case. No necropsy was allowed.

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As Others See Us.

To a foreigner traveling in this country, especially if he be a doctor, the American physician is a puzzle. He is so unlike the product of the Medical Colleges of the older civilized countries that he, his doings and manners evoke at once the liveliest interest on the part of the observing foreign confrere.

The World's Exposition attracted, besides the innumerable representatives of arts and trades, a goodly number of professional men, among them a few physicians who have since described their observations and experiences in their respective home medical journals.

We see from the correspondences, that on some points regarding peculiarities in medical matters specifically American, we, and probably quite a large number of faithful readers with us, are densely ignorant.

Thus, Dr. Marcel Baudoin, in a communication to the *Progres Medical* of July 21, 1894, informs us that in Dakota the medical practitioner needs from fifteen to twenty horses, to do his practice with, and that there are villages of twenty-five inhabitants with two doctors.

Among other peculiarities relating to medical matters he quotes the true history of a doctor in Iowa as related in a book on America, written by another Frenchman,

de Roussiers. According to this authority a doctor in Iowa lost his wife (this occurs even to doctors sometimes! as de Roussier facetiously remarks) and after some months of tears he cast his eye on a blond Swedish woman, who prepared his beefsteaks for him. However, even in America it is not good taste, to marry one's cook, and the amorous (which even happens to physicians) widower took the cook to Chicago (physio-medical school?) where she graduated in six months. To day these M. D's. are married and doing a rushing business.

One consolation is, that the cook took out her diploma in Chicago. With us, in St. Louis, such things are impossible. The incredible part of the story is, that it took her fully six months to acquire the necessary qualifications for graduation. She must have been exceptionally dull. Perhaps she had to learn English in those six months too.

Bacteriological Perplexities.

Although in most of the infectious diseases specific germs are the generally recognized etiological factors, it is a well known fact that some of these disease producers may live in the body under favorable circumstances without producing their respective characteristic pathological conditions and it may be well not to accept a certain germ as the infallible cause of a partic ular disease unless the proofs are as plain and indisputable as is for instance the case in tuberculosis. We know that pneumococci may exist in the mucus of the air-passages without producing pneumonia. The bacilli coli which occur in abundance in the large bowel are suspected by some to be identical with the typhoid fever bacilli and to develop the biological and pathogenic characteristics of the latter when the condition of the soil is favorable. It will be a question of great importance to public sanitation whether the presence of the Klebs Loeffler bacillus, which is supposed to cause diphtheria, proves a case to be diphtheria, or whether this microbe may also be present in a non-virulent form in other inflammatory foci, which appears probable according to the researches of Dr. H. W. Park of which Dr. Chappell in an article published in the *Medical Record* and abstracted by the *American Medico-Surgical Bulletin*, says:

"Reference is made to the results of examinations made to determine, if possible, the question of contagion from follicular tonsillitis. From some of the throats presenting enlarged tonsils or other unhealthy appearance, culture experiments were made, and in two instances Dr. H. W. Park found pure cultures of typical Klebs-Loeffler bacilli in fair abundance and in two others they were scanty. The cases were in the New York Orthopedic Hospital where the author says the children seem especially liable to attacks of follicular tonsillitis.

"From the surroundings of the cases and the results of the culture experiments, Park expressed doubts about the virulent character of the Klebs-Loeffler bacilli found, and subsequently reported that from inoculation he had found them to be non-virulent.

Dr. Chappell continues:

"Until these cases were examined I supposed that Klebs-Loeffler bacilli found in a sore throat meant diphtheria, whether the clinical history and appearance supported that diagnosis or not. If we have to rely on inoculation for the final test as to the true character of the bacilli, the simple finding of the Klebs-Loeffler would not be available for reliable and rapid diagnosis, as non-virulent Klebs-Loeffler might be found in a person suffering from follicular tonsillitis.

"Does the inoculation of an animal with the Klebs-Loeffler bacillus, producing virulent results, necessarily prove that this bacillus is the cause of diphtheria in man?

"Might not the character of the bacilli be determined by the nature of the soil in which they grow?

"At present writing it seems there are three possibilities:

"1. Clinical phenomena of diphtheria without Klebs Loeffler bacilli.

"2. Clinical phenomena of diphtheria with Klebs-Loeffler bacilli.

"3. Klebs-Loeffler bacilli without any clinical phenomena of diphtheria."

The Conveyance of Diphtheria by Milk.

In an article on the general subject of the etiology, spread and prevention of this disease, Mr. Thorne (*Med. Press and Circular*) expresses his views in regard to milk being a vehicle for the conveyance of contagion as follows:

A large number of outbreaks of diphtheria have been distinctly traced to milk, and many of the most obscure outbreaks in former years would have been easily explained had this method of infection then been recognized. The milk may be infected by reason of the presence in the dairy of a person suffering from the disease, for if the germ falls upon the milk this affords it an excellent medium for growth and development. He does not, however, think that this is often the case. A far more frequent cause in his opinion is the existence of a disease in the cow itself. In inquiries into certain outbreaks it has been shown conclusively that the disease followed particular "milk walks," that is to say, the *clientele* of particular dairymen. It has even been traced to particular sheds and finally to particular cows. Of course you must allow for secondary infections, so your inquiries must bear on the first cases only. Of course, a considerable number of the persons who drink the milk escape, but this cannot excite any surprise. It is a common experience. It was, however, noticed that children who were habitual milk consumers suffered the most, whereas those who took little milk and that little

either boiled or only in tea, etc, escaped. Again, those who took cream suffered more than those who did not, an observation already made in respect of typhoid infection. This is probably merely the mechanical effect of the oil globules in rising, taking with them the germs to the surface. With regard to diphtheria, however, Mr. Power has shown that this is not the case. He finds that those who take fresh milk suffer less than those who take skimmed milk or cream, and the point with him is the keeping the milk too long. If you partake of an infected milk while it is yet fresh you only take a certain, probably a small, dose of the poison, because the germs have not had time to multiply to any great extent. If, on the other hand, you take milk that has been standing twenty four hours, the germs have had plenty of time to develop and multiply and the dose of poison is proportionally greater. The lesson to be learned is to leave off drinking raw milk altogether, and you will escape many diseases, diphtheria among the number. Some tribes in India would no more think of drinking raw milk than of eating raw flesh, but whether they rejoice in any immunity from diphtheria from this cause is not known.

BOOK REVIEWS

A System of Genito-Urinary Diseases, Syphilology and Dermatology. By Various Authors. Edited by PRINCE A. MORROW, A.M., M.D. In Three Volumes. Vol. III, Dermatology. Large 8vo., pp. 976. With illustrations. [New York: D. Appleton & Co. 1894.

The volume before us is a magnificent work which is fully up to the high standard set up in its predecessors of this "system." The articles are, in the main, carefully written and dressed in such fashion as to be of both scientific and practical utility. The chapter devoted to the anatomy of the skin is a most carefully prepared monograph by Dr. Heitzmann. He does not seem inclined to adopt the views of Unna on the "coil" glands; but, his reasons are not set forth at sufficient length to convince one who has read the argument of the celebrated Hamburg dermatologist.

The chapter devoted to atrophy of the skin is not explicit enough in the various differentiations which are to be made between the several varieties nor does the writer sufficiently insist upon the neurotic bases of several of these. In fact he seems to look upon mechanical causes, on the one hand, and senile degenerations as well as those secondary to other diseases of the skin, on the other, as being entirely sufficient to cover the whole field.

We have noted one of the peculiarities incident to works of the character of the one before us, viz., the completeness of treatment of a subject which some authors exhibit in all of the contributions, whereas the opposite is characteristic of other writers.

Beyond doubt, the best monograph in this volume is that on leprosy by Dr. Morrow. It is an essay upon which much care has been bestowed and it is of the highest value. The author is not a contagionist and he takes a conservative stand in regard to the easy inoculability of the disease. He is inclined to leave the matter *sub judice* until something more definite is learned in regard to the matter.

The work is magnificently illustrated with colored plates and half-tone plates as well as a large number of illustrations. In fact, this may be regarded as one of the features of the book. The excellent paper, clean type and serviceable binding are much to the credit of the publishers and the subscribers to the entire work will have no cause to regret the manner in which they invested their money.

MEDICAL SOCIETIES

The British Medical Association.

Sixty-Second Annual Meeting, Held at Bristol, July 31 to August 4, 1894.

We are indebted for this report to the *Medical Record.*

FOURTH DAY, FRIDAY, AUGUST 3.

The concluding general meeting was held on Friday morning, August 3. There was a good attendance. The President, who occupied the chair, introduced Sir Charles A. Cameron, F.R.C.S.I., in a few well-chosen and appropriate remarks.

ADDRESS IN PUBLIC MEDICINE.

SIR CHARLES A. CAMERON, who was heartily received, then delivered the address in Public Medicine. He said they might claim that medical men stood pre eminent among those who devised means for prolonging life and lessening sickness. They were the first to show that pure water was indispensable to health, that the efficient drainage of houses and of towns was a prime requisite to the maintenance of the health of communities, that overcrowding spread disease, if it did not develop it, and that the high mortality associated with many industrial occupations might be lessened by the adoption of certain precautions. The lives saved by the adoption of Jenner's sublime discovery of vaccination amounted to millions. In the government of modern communities the medical man played, even from a public health point of view, a very subordinate part, and yet there were many medical men eminently fitted, by their culture, experience and ability, to hold the office of

Minister of Public Health, aye, even with a seat in the cabinet!

MORTALITY RATES IN TOWN AND COUNTRY.

In 1893 the mortality rate in the towns was 5.7 per 1,000 in excess of that in the rest of the country. The difference between the rural rate and that in some of the towns was appalling. Why had one British town twice as high a mortality as another, and why was the average duration of life so much greater in rural districts than in the towns? The causes were no doubt highly complex, and many of them were local. Among the poor in all towns birth and death rates stood highest. Their greater fecundity and high marriage-rates compensated for their enormous mortality. The poorer a man was the more likely was he to marry. It was a remarkable but undeniable fact that a man's desire for matrimony was in the inverse proportion to his ability to maintain a family. Figures showed the appalling mortality of the children of the poor. If the deaths of children under five years of age were excluded, there would only be a difference of about 2 per 1,000 between the town and country death rates. A large proportion of the lower classes in the towns was underfed, insufficiently clothed and badly lodged. These unfavorable conditions told most severely upon the very young. As higher death-rates prevailed among the poor than obtained in the case of the well-to-do classes, an undue proportion of very poor people in a town necessarily caused a higher death rate than where the poor were comparatively few. This would be the case even where the general hygienic conditions of both towns were much alike. It might be considered that the comparative poverty of towns might be to some extent determined by ascertaining the proportion of the population who were domestic servants. On the whole, they found that in the towns where the domestic servants were very numerous the death rates were low. The percentage of tenements which consisted each of a single room might, one would suppose, offer an indication of the poverty of a town. He found, however, the most extraordinary differences in towns, salubrious and otherwise, as regarded one-room tenements. In the Scotch towns one roomed houses were even more common than in England.

In Dublin one-third of the families lived in single rooms. The high death rate which characterized the denizens of single-room dwellings was largely the result of the miserable conditions of the people themselves, apart from the state of their dwellings. If they exchanged their one roomed dwellings for four-room tene ments, they would still have a high death-rate by reason of their poverty and its concomitant evils, and, he feared, from their intemperance. It was to be regretted that the local authorities still allowed such houses to be built. In Dublin they could not be erected, a by-law directly prohibiting their construction. In Dublin, 2,700 houses had been de-tenanted and closed—about 1,000 of them never to be reopened, without any compensation to the owners. If a municipality were wealthy it could do no better work than providing good dwellings for the artisans and laborers; but if its means were limited, it should look only to the wants of the laboring and still poorer classes. It was in the dwellings of the very lowest classes that the seeds of infective disease were nursed as if in a hotbed. These places were pest spots, and any amelioration of their condition must be a gain to society at large. The corporation of Dublin had been able to provide two room tenemente with separate sanitary accommodation of the most modern style, at 2s. per week, and without loss to the city treasury.

WATER SUPPLY.

The disuse of town wells and the filtration of public water-supplies had done much to lessen the urban mortality. The value of filtration through mere sand had until recently been under-estimated; but the researches of chemists and bacteriologists had shown that filtration through sand and gravel can be made almost as perfect as through charcoal. The great importance of water filtration was painfully demonstrated during the last epidemic of cholera at Hamburg. They had not yet determined, in relation to chemical analysis, the line which divided a bad from a good water, nor did he believe that such a line could be drawn. One that contained very little organic matter might be dangerous to drink, while, on the contrary, water with a large amount of organic matter had been drunk with impunity for years. The number of micro-organisms in water was regarded by most bacteriologists as a measure of its purity, regardless of its chemical composition. The epidemic of enteric fever in the Sees Valley in 1890 and 1891, investigated by Dr. Barry, of the Local Government Board, had been held to prove conclusively that this disease was propagated by water. Dr. Barry's conclusions had, of course, been questioned and controverted.

SEWER AIR.

The result of recent investigations in reference to the composition of sewer air showed that it was superior, bacteriologically at least, to ordinary air. They could easily understand that in the case of well-constructed and constantly flushed sewers, the air in them would not differ from ordinary atmospheric air. It was the emanations from stagnant sewage in ill-kept sewers that were to be dreaded. The ventilating openings in the streets were generally objected to by those who lived opposite to them. Bristol was, perhaps, the only one of the large towns in which the sewers remained unventilated. As typhoid fever was asserted the most likely to be produced by sewer emanations, Bristol ought to have more than an average amount of disease, if the sewer ventilation theorists were correct. Statistics of the mean death rate from enteric fever, in the period 1887 to 1891, showed that five towns had smaller rates than Bristol, and forty four had higher. If Bristol had made a mistake in not ventilating its sewers, it had not apparently paid any penalty, for in the period 1881 to 1890 only one of the large towns had a lower zymotic

death-rate. He should feel disposed to adopt the Bristol plan, were it not that there might be some difficulty, in some towns at least, in cleansing the sewers. Typhoid fever was not so prevalent in these countries or on the continent as it formerly was, but in some towns typhoid fever had not declined, and in a few it had increased. There was a very general belief that this disease was almost wholly propagated through the media of water, food and sewer air; but he believed that the greater number of cases arose from the *materies morbi* of the disease being absorbed from the air. Up to the present, pathogenic micro-organisms had not been frequently detected in the atmospere, but neither had they been found, except rarely, in water or milk suspected to have produced disease. He believed that typhoid fever was a disease of the miasmatic class, and that it became endemic in certain localities in which the conditions of the soil were favorable to the development of the micro organisms which caused the disease. It had been suggested that the waterlogged condition of Dublin was the cause of the prevalence of typhoid fever, and that the obvious remedy was subsoil drainage. It was, however, a fact that the low lying portion of Dublin, where there was most typhoid fever, was not damp, and that the ground water lay low there, and that in the part where the ground-water came much nearer to the surface there was least typhoid fever. The explanation of this was not difficult. The cold, wet clays were unfavorable to the bacillus of the disease, whereas they had better feeding ground in the loose and well-aerated gravels. It was stated that typhoid prevailed most among the upper classes. This was not the case in Dublin.

THE FUTURE OF PREVENTIVE MEDICINE.

The domain of public medicine was steadily enlarging in every direction. Surely the time must come when the results of these researches would enable man to extirpate some or all of the diseases which even now were termed "preventable." England had been described by foreigners as the birthplace and home of sanitary science, and it surely deserved the compliment. Never before in the history of the world were thirty millions of people located on fifty thousand square miles, as was the case with the England of to-day. Of these millions two-thirds resided in the towns, which yearly had a quarter of a million added to their teeming population. In Germany forty-two per cent of the population lived in towns containing two thousand and upward. Only every tenth Russian lived in a town. Notwithstanding the great and continuous increase in its urban population, Great Britain grew healthier and healthier from decade to decade.

Prof. Corfield, of London, moved that the thanks of the meeting be given to Sir Charles Alexander Cameron for his able and interesting address. It was due to Sir Charles that typhus had been so effectually grappled with in Dublin, for it was through his efforts that the insanitary dwellings which were the hotbeds of the disease had been swept away by hundreds. The same reason accounted for the failing power of the disease in Liverpool. At the same time there was the matter of the increase of diphtheria. Many causes were attributed to this, and among those which found most favor with the officials of the Local Government Board were the street ventilation of sewers, and the increased aggregation of children in schools. Alluding to the probable dispensing with vaccination, the speaker said that the opposition to this by the medical profession had been attributed to their desire to protect fees, but he prophesied that if vaccination became non-compulsory the public would require half as many again medical practitioners as existed to day.

Dr. Davis (the medical officer of health of Bristol) seconded the resolution, which was carried by acclamation.

The various formal votes of thanks having been given, the President of the Council (Dr. Ward Cousins,) moved a vote of thanks to the President (Dr. E. Long Fox) for his genial courtesy and marked ability in conducting the business of the congress.

Dr. Winterbotham, of Bridgewater, seconded the resolution, which was carried with great enthusiasm.

The President acknowledged this vote with a few courteous remarks.

A motion on the agenda in the name of Dr. T. G. Horder, of Cardiff, advocating an ethical section, was accepted for consideration in the name of the council.

A very cordial vote of thanks to Dr. Markham Skerritt, who had so well fulfilled the arduous duties of honorary secretary, terminated the proceedings.

Section of Surgery.

First Day, Wednesday, August 1.

The proceedings of the section were opened by the President, Mr. Mitchell Banks, with a few remarks.

President's Address.

He said that no formal address was needed since Mr. Greig Smith would, on the following day, deliver the address on surgery. Referring to the progress of modern surgery, he said that in studying the history of the art it was noticeable that those whose names were handed down to posterity were not the introducers or inventors of new methods, nor the brilliant operators, but the steady, practical observers who were content to have as their motto "Festina Lente." In studying of late years modern surgery and its tendencies, it had sometimes occurred to him that we might be going too fast, but he was happy to believe this tendency, which a few years ago seemed to be strong, had lately been much modified, at any rate in Great Britain. It was our proud boast that the British surgeon, when he stood at the bedside, thought only of the sufferer as a patient, not as so much material for experiment. In surgery it was best to be sure that what was new was also true. Some politicians had suggested that it would be an excellent thing for the country if no new laws were made for five

years. He would similarly suggest that it would be a good thing for them if no new drugs or new operations were introduced for five years, so that they might study and thoroughly estimate the value of those that they have already. He believed that much time was wasted in the trial of old methods under new names, because they had not been thoroughly tried when originally introduced. He referred to the great harm done by the non-publication of many unsuccessful cases, by which a false idea was conveyed of the merits of operations and modes of treatment. There were nowadays certain misguided sentimentalists who, in the lay press and elsewhere, abused modern surgery. These people were anti-visectionists and anti vaccinationists, and when their views were a little more obscure and exalted—anarchists. The publicity given to surgical work and to hospitals, managed as they were by charitable and devoted laymen, was their best defense.

Operative Treatment of Perforating Ulcer of the Stomach and Intestines.

Mr. Pearce Gould then opened the discussion on this subject. He said that a good many years ago Dr. Marion-Sims showed his keen foresight in prophesying that it would not be long before perforation of a gastric ulcer would be amenable to treatment by surgeons, and cease to be a hopeless condition. Eleven years ago, a distinguished Bristol surgeon (Mr. Nelson Dobson) read a paper in which he maintained that the proper treatment of this complication should be by abdominal section and suture of the opening in the stomach, or if it proved to be impossible to close the perforation, that a gastric fistula should be formed. The reception of these views was not a very encouraging one, but lately surgeons had more and more followed Mr. Dobson's advice.

In dealing with the subject, he would exclude all cases due to malignant disease and disease of the appendix vermiformis, and would first consider perforating ulcers of the stomach and duodenum.

The pathology of the disease was mysterious. It occurred oftenest in anemic young women, very often of the domestic servant class, and less often in middle-aged men. He described the classical symptoms of gastric ulcer which, however, unfortunately formed no sure guide. They were sometimes entirely absent. Statistics showed that eighty-five per cent of those in whom the existence of ulcer was diagnosed recovered. In 6½ per cent perforation and death occurred; five per cent died from hemorrhage, and the remaining 3½ per cent died from exhaustion and other causes. Perforation occurred most often in ulcers of the anterior wall. Duodenal ulcers were most common in men. Billroth had recommeded that as soon as ulcer was diagnosed a prophylactic excision should be performed, but the speaker did not recommend this treatment. Among other reasons against it were the facts that so many cases recovered spontaneously or under treatment, and that diagnosis was still very uncertain in regard to the position of the lesion, and some cases were so acute and perforation occurred so rapidly, that there was no opportunity of excision. When perforation was followed by escape of the contents of the viscus into the general peritoneal cavity, death sometimes occurred almost immediately from shock. In other cases shock might be almost entirely absent. The success of the operation, he believed, depended more on the complete and thorough cleansing of the peritoneal cavity—abdominal toilet—than on suture of the opening. He related several cases in illustration of this point.

Time of Operation.

The operation should be undertaken as soon as possible after reaction from shock set in, but it was better to wait till proper assistance and appliances needed for the abdominal toilet were at hand rather than to proceed without them. For flushing purposes he preferred boiled water containing one drachm of common salt to the pint (20 ℥) to any chemical antiseptic solution. The solution should be of the temperature of from 110° to 112° F., and it exercised a marked restorative influence on the patient. Flushing should be done in a regular and systematic manner, and no time should be spared in making it thorough. It was the one essential step in the operation. He thought that excision of the ulcer was a needless and useless proceeding. In every case where peritonitis was well marked he made an incision above the pubes and drained the peritoneal cavity. When from the extent of the disease or size of the opening it was impossible to close it, the stomach should be drained. Seven cases were recorded of operation followed by recovery.

He cited seventeen cases of perforation from typhoid ulceration of the intestine which had been operated on. Of these one recovered. He excluded three cases of doubtful nature, all of which recovered. The ileum was the part affected in most cases, and there was often more than one perforation. It must be borne in mind that perforation sometimes occurred while cicatrization was in progress, and even months after the onset of the fever. Symptoms might be very marked or slight. Spontaneous recovery was very rare. Operative interference was only to be recommended when the fever had subsided or nearly so. With regard to ulcers of the posterior wall of the stomach which perforated, and sometimes caused subphrenic abscess, such abscesses should be opened and drained from behind if possible, or if opened in front a counter opening should be made for drainage behind; this was almost essential.

Mr. R. Maclaren, of Carlisle, said that he had personal experience of four operations in such cases. Of these three were cases of gastric ulcer, of which two were fatal and one ended in recovery, and one case of typhoid ulcer which recovered, operation having been performed thirty-six hours after the perforation. Simple drainage without suture was all that was done.

Mr. Rutherford Morrison, of Newcastle, said he had operated on one case of gastric ulcer. There was peritonitis limited to the pelvis. The patient died, and

at the necropsy it was found that the sutures held, the opening was securely closed. The perforation opened into the lesser sac of the peritoneum. He condemned excision of the ulcer.

Mr. Gilbert Barling, of Birmingham, gave details of several cases showing the difficulties of diagnosis and treatment. He thought that too optimistic a view was taken generally of these cases. Operations for the cure of perforating typhoid ulcers were of very doubtful expediency. If any operation were undertaken it should be as limited as possible. Opium he thought of great value in the treatment of the primary shock and after operation. Suture in typhoid ulcers was not to be advised.

Mr. Ward Cousins, of Southampton, spoke of the benefits of incision and drainage alone. It was remarkable how small a quantity of fluid escaped from the stomach in many cases. This was due no doubt partly to paresis, and hence the value of opium. He believed that flushing was a much more critical procedure than was generally thought. He would do it as sparingly as possible.

Mr. Haslan, of Birmingham, had operated on, one case that ended fatally. He would draw a distinction between ulcer on the anterior wall of the stomach which caused general peritonitis, and ulcer of the posterior wall which often caused only localized inflammation. Unfortunately the classical symptoms of ulcer were more often present in the latter class of cases. Shock often came on as late as three or four hours after perforation. The difficulty of the operation was often increased by the rotation of the anterior surface of the stomach upward so as to hide the opening. Having once found the ulcer it was wise not to let it go again, as in his case much time was lost by neglect of this precaution. The edges of the ulcer should be inverted and Lembert's suture used. He would try to empty the viscus through the wound, but would not waste valuable time over it. He was an advocate of very free and prolonged flushing.

Mr. Nelson Dobson, of Bristol, said that although he advocated the operation eleven years ago, he had not had any opportunity of practicing it. It was intensely interesting to him to find that his suggestion had been so generally adopted. He hoped, however, that too optimistic views would not prevail and cause the operation to fall into disrepute. He thought it almost futile to wait for shock to pass off. He would operate as soon as he was satisfied of the diagnosis.

Mr. Damer Harrisson, of Liverpool, generally agreed with previous speakers as regarded gastric ulcer. He doubted the occurrence of spontaneous recovery in cases of perforating typhoid ulcer. Diagnosis, especially in the acute stage of the fever, was often very difficult. He described one case in which two ulcers were sutured. Death ensued seventeen hours afterward, and it was found that the sutures still held. He would operate as soon as the diagnosis was made, and flush freely; hot water he believed relieved shock. In one case of typhoid fever in which perforation was supposed to have occurred there was distention and loss of the liver dulness. He opened the abdomen and found no perforation but a kink of the gut. The patient entirely recovered. He preferred to suture the opening in cases of typhoid ulceration.

Mr. Kendall Franks, of Dublin, had operated on one case with a fatal result. Much was to be learned from failures. He would always operate as soon as the primary shock had passed off, and would remove the diseased tissue and pass the sutures through healthy tissue. He thought that the occurence of a second perforation in one of the cases cited by Mr. Pearce Gould was a silent witness to the truth of his view. Flushing was essential to success, but it was difficult to clear out the lesser omental cavity and the parts behind the liver and spleen.

Mr. R. O'Callaghan, of London, had operated unsuccessfully on two cases. He thought that no other condition in surgical practice showed such early and severe collapse. Early operation was imperative without waiting for reaction from shock. Opium was beneficial in case of shock, but not in collapse.

Mr Pearce Gould said in reply that he was no advocate for delay, but he would not operate during primary shock when it was present (it was sometimes entirely absent). After the shock was rallied from, and before collapse set in, was the time for operation. As to the free excision advocated by Mr. Kendall Franks, he said that it was all very well to sacrifice a few inches out of the twenty feet or so of intestine, but it was a more serious and difficult matter to remove a large portion of the stomach-wall and securely suture the remainder, whereas there was no risk of inversion of the edges causing trouble in the case of the stomach as it might in the intestine. As to the actual occurrence of spontaneous recovery from perforation of a typhoid ulcer it had been proved to occur sometimes by Cayley and Murchison's researches. We must beware that, in flushing, septic materials were not driven from the wound into the distant parts of the peritoneum and thus disseminated. Flushing should be begun at the periphery and ended at the wound.

The President in summing up the discussion said that the speakers seemed unanimous as to the question of suture. Washing out of the stomach was needless when the natural drain by the intestines was open. The question of spontaneous recovery was important. It appeared certain that in some cases it had occurred. Flushing seemed to be generally approved of, but of course it might be contraindicated by the patient's condition. Finally he must congratulate the speakers on the temperate manner of the discussion and the moderation of their views. He was glad to think that we were abandoning the ridiculously optimistic views common a few years ago in abdominal surgery.

Mammary Tumors.

Mr. Herbert Snow, of London, read a paper on the

dispersal of certain forms of mammary tumors. These were the fibroma of adolescence, tumors due to inflammatory hyperplasia and certain tumors due to dilatation of ducts. The inunction of iodide of lead and mercury ointment four times a day would cause complete absorption of such in a few weeks, and so avoid the scars and other drawbacks of operation. He narrated several cases in point.

There was no discussion on this paper.

Traumatic Delirium Tremens.

Mr. Damer Harrisson read a short paper on the treatment of traumatic delirium tremens. He referred to the method popular in Lancashire among colliers' wives to quiet uproariously drunken husbands. They would send out for two pennyworth of "Quietner" (three grains of tartar emetic) and administer it concealed in a pint of beer. He had adopted a somewhat similar treatment, which was really almost the same as the old treatment of fever. After morphine in full doses and chloral hydrate had failed of any effect whatever, tartar emetic, followed by chloral or morphine, produced complete cessation of the delirium, and after its use very small doses of narcotics took full effect. He quoted cases to illustrate this.

Surgery of the Gall-Bladder.

Mr. Rutherford Morrison, of Newcastle, read a paper "On Some Points in the Anatomy of the Right Hypochondriac Region, Relating Especially to Gall-stones." He demonstrated by diagrams and drawings the existence of a pouch of peritoneum behind the right lobe of the liver which was of importance in the surgery of the gall-bladder. It should be drained through the parietes immediately below the kidney.

Hernia in the Aged.

Mr. R. O'Callaghan read a paper on the operation for strangulated hernia in octogenarians. He said that old people, especially old women, bore operation better than those in the prime of life. He described three cases which were all successful, although in two of them (inguinal hernia) the gut was almost gangrenous, and it was with great misgivings that he returned it, but he decided to do so because the boundary between the congested semigangrenous part and the healthy gut was ill defined, and after long douching with water at the temperature of 110° F. its appearance improved. He laid great stress on these points, as of great practical value. The treatment by enterotomy and the formation of a fistula was unsatisfactory and fatal. In case of gangrene enterectomy, suture, and return of the gut was the best treatment. He used no chemical antiseptics.

Hip Disease in the Aged.

Mr. T. P. Lowe, of Bath, read a paper on the treatment of senile rheumatic arthritis of the hip-joint by forcible movements. He selected the hip-joint as typical, and because in old people it was the first, and often the only, joint attacked. The symptoms were often mainly those of sciatica. Flexion was generally present, and was maintained by the presence of adhesions which should be broken through, an anesthetic being given, if necessary, and in severe cases a Thomas' hip-splint should be applied. In mild cases the recovery was instantaneous and the patient could walk at once without pain. To break through the adhesions the patient should be laid prone and the thigh forcibly raised while the pelvic was held down. His experience led him unhesitatingly to affirm that synovial fluid could be restored to a joint which was dry.

[to be continued.]

ABSTRACTS

MEDICINE.

The Poisons of the Body—The Channels Through Which They are Eliminated.—We are indebted for this interesting article, translated from the French by J. H. Kellogg, to *Modern Medicine:*

The Lungs.—The expired air contains oxygen, carbonic acid gas, nitrogen, watery vapor, some traces of ammonia, and, according to Davy and Loossen, possibly hydrogen sulphide or carbide. Few authors agree with Weiderhold, that the expired air contains, also, uric acid and some badly defined hydrochlorates. The limited substances which escape through the respiratory mucous membrane must be volatile, a fact which restricts the number of substances eliminated through this channel.

Is the expired air toxic? Certainly it is, since it contains carbonic acid gas. Do the other elements which it contains, aside from carbonic acid gas, confer upon it a toxic power? The experiments of Brown-Sequard and of D'Arsonval appear to demonstrate that they do; but we cannot ignore the experiments of Dastre and Loye and others, the results of which contradict those of Brown Sequard.

We may, however, remark that chemistry apparently ignores some of these respiratory products. No one, for example, at the present time, has demonstrated among the respiratory products any of the secretions of microbes, notwithstanding Arnaud and Charrin have shown that among these toxines there are to be found volatile substances. It is even impossible to vaccinate by this group of toxines. The diagnosis of diabetes may sometimes be based upon the odor of acetone thrown off by persons affected with this disease; besides, in rare cases, the breath reveals the existence of fatty acids, as in the cases of hypochondria and constipation.

Certain poisons, such as chloroforms, ethers, alco-

holics, asafetida, some balsams, etc., when introduced into the digestive canal, choose the air passages as their means of exit. The effects of enemas of sulphureted hydrogen will be remembered. We may add that Du Bois-Reymond has called attention to some illy defined objects which are to be found in the expired air. This subject is not yet fully elucidated. The mind does not easily accept the idea that there is nothing dangerous in the expired air.

The Skin.—The skin eliminates salts, lactates, sudorates, earthy phosphates, alkaline sulphates, chlorides of soda and potash, fatty matters, epithelium, etc. These constituents are present in very minute quantities, often only traces, so that in a thousand parts of perspiration the proportion of water is 988.40. In the analysis, Funcke, Schrottin and Favre are clearly agreed upon these points. Notwithstanding, it is proper to mention the group of nitrogenized matters which are practically reduced to urea. Devoto, however, mentions nitrogen; Ergutinsky, acetome; and Buisine, malic acid.

Numerous conditions, as temperature, diet, drinks, nervous activity, and the anatomical structure of regions, modify the function of both the sudoriferous and sebaceous glands.

Sometimes the sweat glands throw off pigments. It is possible to discover iodine, arsenious acid, benzoic acid, and sulphate of quinine in the perspiration of persons subjected to the influence of these drugs. In rheumatism, substances belonging to the fatty series are increased. In tuberculous patients the isolation of special products has been claimed.

Recently the possibility of the passage of microbes through the intact skin has been studied. Babes believed that the bacillus of glanders is capable, especially if aided by friction, of passing through the different layers of the skin.

Brunner, in a patient suffering from purulent infection, has observed the presence of a white staphylococcus in the blood and in the sweat. This may have been pure coincidence, the staphylococcus pyogenus albus being not rare upon the cutaneous surface. Always, by causing an animal to perspire, whether by applying electrical currents to the sciatic nerve or by injecting pilocarpine, the same author has collected upon the surface the bacteridia and prodigiosis which had been previously introduced into the circulation.

It would be easy to raise here interminable discussions respecting the capacity of the skin to absorb or expel substances. The discussions of this subject in relation to baths leave nothing to be said. Galvanic currents encourage the process of osmosis. It would be easy to dwell upon the erythemas, roseolas, eczemas, etc., which testify unequivocally to the efforts of the skin to throw out poisons of multiple origin. These poisons originate, it may be in the tissues, as in gout; it may be in soluble or organized ferments in the digestive tube. They may also be received from without, by accident or otherwise. On the other hand, the trophic nerves, the vaso-motor nerves, physical agents, such as injuries, radiation, parasites of various sorts—these are all capable of modifying the skin, and especially the epidermis, in such a way as to favor or to interfere with its activity. Kemadjin Mihran has shown that a simple irritation of the skin is sufficient to cause the appearance of albumen in the urine.

The Salivary, Mammary and Mucous Glands.—The lacteal secretion is, first of all, a nutritive liquid. However, this secretion frequently carries with it medicines, toxines, even microbes—staphylococcus aureus, for example, according to Eiselsberg.

We must mention the internal excretion, the throwing off of the products of disassimilation into the circulation, either lymphatic or blood circulation. These different elements are controlled by influences the most varied, some of which, recently brought to light, are most curious; for example, the pyogenic toxines increase the volume of the lymph.

It is not necessary to dwell upon these discoveries to make apparent their great importance. The changes are due, on the one hand, to a liquid produced by our own body; on the other, to an organic secretion of parasitic origin.

Other series of glands which merit our attention are those of the genital organs, the lachrymal glands, the mucous glands of the nasal cavity and of the cavity of the mouth, and still more the salivary glands. These may properly be considered as supplementary channels of excretion.

The Intestine.—The digestive tube, in addition to its important role in absorption, excretes a series of toxic products. As evidence of this, it is sufficient to glance at the composition of its contents. These consist of food substances which are soluble or refractory to the gastric juices, elastic tissue, horny tissue, mucin, nuclein, cellulose, chlorophyle, lime and soaps. There are also to be found, nutritive elements which have been partially digested but not completely changed, fragments of muscular tissue, starch granules, food albuminoids, etc. There are also to be found, biliary principles more or less decomposed, pigments, urobilin, stercobilin, glycocholic and chlolalic acids, taurin, dyslysin, cholesterin, mucin and lecithan. Besides butyric, oleic, palmitic, propionic, valeric, acetic, lactic, phenic, stearic, isobutyric and caproic acids, we find indol, skatol, cresol, phenol and the excretin of Marcet. There are also soluble and insoluble salts, chlorides, phosphates, alkaline sulphates, phosphates of chalk and magnesia, etc.

We may add to this enumeration some alkaloids, bacteria, diastasic bodies, ferments, epithelial cells, gas, hydrogen, nitrogen, carbonic acid gas, hydrogen sulphide, marsh gas, all slightly irritating to mucous and serous membranes, according to Brautigan; and we shall still be far from having told all. The intestine receives various elements, some simply useless, others more or less noxious, from different sources. The mucous glands, the pancreas and the liver unite in throw-

ing into this canal a crowd of bodies of which the system must rid itself.

Great attention is given, and properly so, in works on physiology, to the role of the digestive tract in the phenomena of transformation, assimilation and absorption. Perhaps we have too much neglected the part which it plays in elimination. A series of substances, after having passed through the general circulation, find their exit through the walls of the ilium, the cecum or the colon. If we inject corrosive sublimate, in a solution of one gram in four or five liters of water, into the vein of the ear of a rabbit, the animal will die, and the autopsy will reveal ulceration of the large intestine. Inject into the vessels the toxines of the bacillus of blue pus, and there appears the diarrhea which follows when an animal is inoculated with the bacillus itself. If, on the contrary, we introduce these toxines into the digestive tube, great difficulty will be experienced in inducing similar symptoms. Mercury, as well as the secretions of microbes, seeks exit from the body through the cavity of the intestine. The same occurs with toxins naturally produced within our own bodies, when, Bright's disease having closed the kidney, digestive uremia occurs.

The hepatic cell by its activity destroys a multitude of poisons. From ammonia it produces urea, a body infinitely less poisonous than the alkali. It removes from the body certain principles, coloring matters in particular, especially when there has been an effusion of blood. Besides biliary acids, salts of soda, potash and magnesia, mucid, lecithin, cholesterin, olein, palmitin, sulphates, etc., in pathological conditions, there appear lead poisoning and a series of other drugs or poisons, as iodide of sodium, essence of turpentine, antimony, iron, arsenic, etc.

The importance of these channels of elimination is due in part to the noxious qualities of the products to which they give exit. The biliary acids and salts, according to Rohrig, Feltz, Ritter and Muller; bilirubin and biliverdin, according to Bouchard and Tapret, are highly active poisons; 5 c. c. (1¼ dram) of beef bile killed a rabbit weighing 1500 grams (3.3 pounds). When the coloring matters are removed from the bile, twice the quantity is required for a fatal dose.

We may add that the biliary salts disintegrate the blood globules, alter the muscular fibers and produce degeneration of the liver cells—the very cells by which they have been produced.

Icterus urine is extremely poisonous, its toxic properties being especially due to potash and other mineral matters which are derived from cellular disintegration.

Panum, Hemmen, Bergman, with others, long ago called attention to the toxic character of the intestinal contents. Prof. Bouchard has shown the special properties possessed respectively by the aquems and the alcoholic extracts, and further, he, with Selmi, Gautier, Brieger and Taurat, has demonstrated the presence of alkaloids which, for the greater part, are derived from bacteria.

It is easy to demonstrate the noxious properties of these matters. It is only necessary to inject them into an animal, when convulsions quickly appear, especially if the alcoholic extract is employed. In considerable part these disturbances may be due to ammonia or to the salts of potash.

The toxic elements, soluble in water, generally produce weakness and drowsiness. Stich discovered this property of the fecal matters by depositing in the intestine of one species the fecal matter of another species. The circulation absorbed, so to speak, a part of these toxic matters from the surface of the mucous membrane, to eliminate them through the kidneys. A most satisfactory method of demonstrating the toxic properties of these substances consists in establishing rigorous antisepsis of the digestive tube by means of some insoluble antiseptic. By this means we are able to place in evidence the fact as recognized by Prof. Bouchard, that by means of this intestinal antisepsis, the toxicity of the renal secretion is modified.

In three patients suffering from chronic enteritis, I have succeeded, by the employment of naphthol B. administered in the proportion of 4 grams in 24 hours, in suppressing a third of this toxicity. Surmount, in some cases of hepatitic disease, has been able to diminish it one-half.

Sulpho-conjugate acids, of which the most important is indican, may serve to indicate the intensity of intestinal putrefractions, it being understood that these putrefactions constitute the principal origin of the acids.

The anti-microbic action of the gastric juice limits these fermentations. Thus, in cases of renal disease, when free hydrochloric acid disappears, there results an increase in the excretion of these elements—it is at least doubled.

The bile is equally active in the role of an antiseptic. In cases of icterus, these same sulpho-conjugate elements are found in great abundance in the bladder. They return to a normal proportion when the fecal matters recover their natural state. Calomel in a daily dose of 5 to 8 grains has no influence upon their quantity. It affords little opposition to the evolution of germs in the intestine. This is, without doubt, due to its solubility. By virtue of this property it remains too short a time in the digestive canal, so that its action is too ephemeral to be practically useful. The influence of the alimentary canal upon the preservation of the viscera has long been known. I killed at the same moment three rabbits by puncture of the bulb. The first received an intravenous injection a moment before, of a solution of corrosive sublimate, 1—1000; in the case of the second, as in both the others, the abdomen was opened upon the linea alba. In the case of the third one, the intestinal canal was removed, the ligature being applied at the cardiac orifice and the anus. In the case of the third, the abdominal cavity was simply opened. The bodies were placed in identical conditions, as regards light, heat, ventilation, etc. Each day a culture was

made from the liver and kidney of each rabbit. It was clearly manifest that the invasion of the viscera by mic robes was most prompt in the subject from which the intestines were not removed, the slowest in the one deprived of its intestines, while the rabbit which was injected with mercury held the middle place.

KIDNEYS.—The facts which we have already presented amply suffice to place beyond dispute, on the one hand, the toxic properties of the contents of the ilium and the colon; and on the other hand, the passage of a part of these toxic principles into the circulation,and thus into the bladder. This passage reveals a grave defect in the conduit charged exclusively with the principle of elimination. This defect arises from a property possessed by the mucous membrane of absorbing certain matters which flow over its surface. Consequently, it con not be known what substances will be completely expelled by the intestine, which ones will be taken up by the circulation; nor, for a given body, what quantity will be expelled and what proportion will be absorbed. If we add to these considerations the difficulties, or rather the inconveniences, of the manipulation and handling of the fecal matters,—obstacles which are readily recognized, if one desires to inject them in a natural state,—it will be readily seen why the urine is preferable for study, especially as the pelvis of the kidney, the ureter and the bladder, in a normal condition, do not absorb, while the urine incloses an indefinite series of products which have been produced in the system,—water in excess; a considerable weight of solid matters, particularly of mineral substances; numerous bodies, some nitrogenized, others non nitrogenized (urea, uric, hippuric and oxaluric acid; xanthin, allantoin, creatin; lactic, oxalic, phosphoric and succinic acids, and traces of volatile fatty acids) some sulpho-conjugate acids (indican, phenol sulphuric, cresol, sulphuric, sulpho-pyrocatechic); salts of soda, potash, chalk and manganese; chlorides, phosphates, carbonates, ammonia, alkaloids, ptomanes, leucomanes; coloring and odorous principles, etc. Some of these products appear only under anomalous circumstances, as globulins, toxalbumins, certain diastases, cerin, gases, compounds, etc.; others from an integral part of its composition.

It is necessary to add that with this secretion, as for most others, the chemical variations are numerous. The same is true of the oscillations in physiological processes, as relates to the influence of wakefulness, of sleep, of food, of fatigue, of cerebral work, of health, of disease, etc.

Diagnosis in Pediatrics.—The Dublin *Journal of Medical Science* points out that the complexion may be clear and delicately tinted, though pallid, as in the tubercular. If cyanosed, it suggests a respiratroy cause; a leaden or earthy tint, especially with great pallor about the upper lip; will frequently be found with gastro-intestinal trouble; the swarthy (*cafe au lait*), though pallid, face may put the physician on his guard for syphilis; in the spasmodic stage of whooping-cough the face becomes swollen, often ecchymosed, the eyelids puffy, the conjunctiva conjested and bloodshot; the sunken, vacant eyes, with dark areola around them, indicate great collapse. The expression of the face will not infrequently indicate even the seat of the disease. Jadelot has pointed out the following lines in the infant face which, by their position, indicate the seat of derangement: The oculo-zygomatic line from the inner canthus of eye downward and outward to the cheek, a little below the malar eminence, pointing to derangement of the brain and nervous system. The nasal line, from the upper part of the ala nasi, curving downward around the corner of the mouth; said to be never absent in gastro intestinal derangement. The labial line, beginning at the angle of the mouth and running downward and outward, generally accompanied by rapidly-moving nares; a fairly trustworthy sign of diseases of the lungs and air-passages The child's attitude should also engage attention. A healthy infant lies with limbs semiflexed, and, if on his back, inclines one cheek to rest on the pillow. When the limbs and trunk are rigidly stretched out, tetanus is suggested; when unconscious, or in great weakness and prostration, the child will be found lying flaccid on his back, with face to ceiling. If found on his side, curled up and with head retracted, a frown will probably be seen, together with the oculo zygomatic line, suggesting cerebral irritation, or, if there is opisthotonos, spinal irritation. If there is intolerance of light, as in cerebral irritation, the face will be buried in bed-clothes. In abdominal discomfort or in rickets, the child presistently lies on his face, or even rests on elbows and knees. As regards the cry, some information may also be gained here. Sharp, violent fits of crying, with vigorous movements of the legs, usually indicate colic; the sudden, sharp, single, piercing cry uttered at intervals, while the patient lies in a stupid drowsy, semi-unconscious state, is but too suggestive of meningitis; while the hoarse grating cry of syphilis is characteristic. In contrast to these, note when the child does not cry, as in profound weakness brought on by diarrhea, and in grave pulmonary affections where the breath is too precious. Lastly, both suction and deglutition should be noted. Dyspnea and acute fever cause suction to be performed in short snatches; syphilis also necessitates pauses for breathing. In thrush or ulceration, suction and deglutition are evidently performed with great pain; if the throat be sore, there is frequent cough and noise in deglutition. In great prostration, if the child swallow at all, it is an exceedingly hopeful sign.

The Possibilities of Thyroid Therapy.—In view of the marvelous results obtained from the administration of some preparation of the thyroid gland in one form or another in the treatment of myxedema and allied affections, it is not at all surprising that a remedy so distinctly useful should be tentatively and experimentally employed in a large number of other conditions, including those in which there is obvious or

only possible involvement of the thyroid gland, as well as those in which there is no reason whatever to suspect such involvement. Reports of successes must, under these circumstances, be received with judicial skepticism, particularly if not presented by one of established reputation and unassailable character. Doubt and hesitancy vanish, however, in the face of reports made by such a careful observer, conservative thinker and competent authority as Byrom Bramwell, of Edinburgh, who at the last meeting of the British Medical Association reported successful results from the employment of preparations of the thyroid gland in the treatment of psoriasis. Further observations seem but to confirm the earlier conclusions, and to indicate even a still wider field of usefulness for preparations of the thyroid gland. Being aware that cases of myxedema manifested a predisposition to tuberculosis, and not infrequently died from the intercurrent disease, and reasoning that this association might be due to the absence from the juices and the tissues of the body of the secretion of the thyroid gland, Dr. Bramwell (*Brit. Med. Jour.*) was led to use of thyroid extract by internal administration in the treatment of two cases of lupus that came under his observation, and with pronounced benefit. The results in these cases suggested the possibility of the thyroid extract also being useful in other forms of tuberculosis, and as full doses are rather depressing, it would be wise, before employing the remedy in cases of pulmonary tuberculosis, to test the effect of its administration in cases of scrofulous disease of the cervical glands, bones and joints in which the disease is not sufficiently advanced to demand surgical treatment. Finally the thought is thrown out that by improving the nutritive condition of the cutaneous structures thyroid extract may prove useful in the treatment of leprosy, and that by increasing the resisting power of the tissues it may also be of service in cases of carcinoma. From the apparently selective action of the thyroid preparations upon the skin and its adnexa we have ourselves thought that good results ought also be obtained by the internal administration or subcutaneous injection of thyroid extract in the treatment of erysipelas.—Philadelphia *Medical News.*

SURGERY.

Injury to the Brain.—Herhold (*Deut Med. Woch.; Brit. Med. Jour.*) reports the two following cases:

1. A man, aged 24, received a blow on the head. He fell, but did not lose consciousness. During the second day after the injury, he suddenly lost the use of the left arm and leg. On admission on the next day a gaping wound was seen running from before backwards, and extending for a distance of 1 cm. on either side from the middle point of the coronal suture on the right side. A defect was felt in the bone about the size of a pea, and brain-like material came away from the wound. No fragments of bone, however, could be felt. There was absolute flaccid paralysis of the left arm, and paralysis with slight rigidity of the left leg. The tendon reflexes were slightly exaggerated, together with foot clonus on the left side. The superficial reflexes here were also diminished and sensation somewhat impaired. Four days later clonic convulsions supervened in the paralysd side, consciousness being preserved. The defect in the skull was enlarged with the chisel, and several small splinters, which were lying on the brain stripped of its dura mater, removed. Seventeen hours after the operation he began to move his left index finger. He continued steadily to improve, and six weeks after the accident he was discharged, the paralysis having quite disappeared. He was seen three weeks later, when he was quite well; there had been no recurrence of the fits since the operation. Primary trephining was not adopted, as no splinters could be felt, and there was no evidence of hemorrhage from a large vessel. Primary trephining does not give such good results as secondary. The injury lay in front of the Rolandic area; the author thinks the paralysis due to edema extending from a meningo-encephalitis over the uppermost frontal convolution.

2. A woman, aged 22, had a severe blow on the head, followed by unconsciousness lasting twenty minutes. When she woke up she had clonic spasm in the face and right arm. Depressed bone could be felt. On admission, there was almost complete paralysis of the right side. Tactile sensation as well as that of temperature and the muscular sense were impaired here. Signs of phthisis were present. A part of the wound lay over the Rolandic area. The depressed bone was removed with some difficulty. The next day the leg began to recover, and regained its full power in three days. Recovery of the arm was slower, and was incomplete even after four weeks. The pulmonary lesion was progressing. In this case primary trephining was had recourse to. Contusion of the brain substance must have occurred in the arm center. The disturbed tactile and temperature sensation, as well as the impaired muscular sense, show, as in the first case, that the central convolutions are concerned not only in motion but also in sensation. Six weeks after the accident the second patient showed considerable improvement in her chest symptoms, and the right arm was nearly of equal strength to the left.

Tubercle Bacilli in the Nasal Cavities of Healthy Men.—Strauss (*Bull. de l'Acad. de Med.; Brit. Med. Jour.*) describes some experiments made on patients and pupils connected with the Hospitals of La Charite and Laennec, with a view of proving that tubercle bacilli may lodge in the nasal cavities of persons presenting no suspicion of tuberculosis, and yet retain their virulence. Tampons of sterilised cotton wool were introduced into the nasal cavities of six healthy nurses

living in the hospital, of seven healthy pupils making daily visits, and of three inmates suffering from chronic non tuberculous affections, and afterwards shaken up in sterilized bouillon or water. This liquid was then injected into the peritoneal cavity of twenty nine guinea-pigs. In seven cases the animals died of septicemia or purulent peritonitis; in thirteen cases they remained apparently well and no definite lesion was discovered post-mortem; in nine cases they died or being killed at the end of three to five weeks presented decided tuberculous lesions. Apparently, therefore, tubercle bicilli may enter the system through the nose, may while remaining in the nasal cavities fail to infect the individual, and yet may retain sufficient virulence to prove infectious when inoculated into guinea-pigs. Strauss's observations also throw some light on the fact that the subjects of repeated epistaxis not infrequently become tuberculous.

Jejunostomy.—E. Hahn (*Deut. Med. Woch ; Brit. Med. Jour.*) observed that the fistula must be made high up in the small intestine, otherwise death will occur from inanition. He then refers to the recorded cases of jejunostomy, especially by Maydl. The author thinks that the making of a fistula in the duodenum, as has been proposed, is undesirable owing to the difficulty in the operation and to the impossibility of the patient feeding himself. The author then gives details of five cases in which he has performed jejunostomy:

Case I.—A man, aged 69, suffering from gastric carcinoma, recovered from the operation, but died a fortnight later with increasing weakness.

Case II.—A patient with esophageal carcinoma improved after the operation. Nine weeks latter the fistula closed, and feeding took place exclusively by the mouth.

Case III.—A man, also with malignant disease of the esophagus, died four days after the operation of increasing inanition.

Case IV.—A girl, aged 19, attempted suicide by means of strong acid. Nearly two months later only a fine esophageal bougie could be passed. As the sounding was followed by some bleeding, jejunostomy was performed. She made a good recovery. The fistula closed about a month after the operation. She was in good condition some three years later.

Case V.—A girl, aged 28, also drank sulphuric acid. About three weeks later an obstruction was found about 30 cm. from the mouth. There was great washing. Jejunostomy was done a fortnight later, but the patient died some eight days afterwards. The indications for the operation are, according to the author, the following.

1. Corrosion of the stomach and esophagus when a fatal result is to be feared, as in the above cases.

2. Carcinoma involving the cardia and lower end of the esophagus when gastrostomy is impossible.

3. Carcinoma of the pylorus where no other operation is possible. The incision should not be too small, so that the commencement of the jejunum may easily be found. If the nutrition of the patient permit of it, the intestine need not be opened for several days, otherwise this must be done at once or after twenty-four hours.

Case of Precise Brain Localization.—De Parrville (*Journal Des Debats*): The case of a little girl who was shot in the eye on July 14 is very interesting. The discoveries concerning the localization of the brain have not merely a scientific result; from the start, they have found their application in surgery and therapeutics. However, it is in France, where started the most remarkable studies on the localizations of the brain, that the greatest reserve has been observed in the practice of the trepanning. The remark made by Mr. Pean at the Academy of Medicine leaves the impression, that occasionally at least, when the patient having his life endangered might be substantially benefitted by the operation, there would be reason to show more confidence and boldness.

The girl was four and a half years old and was crossing the street when a ball of small caliber penetrated through the globe of the eye, to its deep cavities. She was taken to the hospital for children, where she remained until April 4, and returned home. There, as at the hospital, she suffered with sick headaches and weakness in the sight of the left eye; Mr. Gillet de Grandmont examined her. On April 30, she was entirely blind. Diagnosis: Sympathetic neuralgia from infectious cause. Sub conjunctival injections of solution of sublimate cause the reabsorption of the papillary veil. The sight came back. After a short period of relief, the neuralgia returns followed by paralysis of the left arm. The mind is not affected. Mr. Gilbert Ballet, called in to see the child, notices a marked weakness of the leg on the same side as the arm. His diagnosis is: lesion of the encephalon existing on the level of the motive centers of the left arm and leg.

Since the researches of Bouilland, Dax, d'Andral and Broca, the region of the encephalon which controls the movements of the leg, arm, eyes, etc., is known. Therefore Mr. Ballet following the instructions of Mr. Lucas-Chambonniere, traced a circle of the size of a 2 francs piece. "There," said he, "must be the right frontal circumvolution containing the motive center of the left limbs. There must be the seat of purulence, and the operation of the trepanning is necessary to remove it.

On September 24, the patient is taken with a fit of jacksonian epilepsy followed by others. She is moved in the International Hospital and Mr. Pean performs the trepanning. After removing the bony circle, detaching the periosteum, is found just at the place indicated an abscess furnishing 200 grammes of liquid. The day following the operation, the child is bright and gay, does not complain of any headache and commences to move her arm. On October 10, the young patient left the hospital.

Mr. Gillet de Grandmont has seen her since; there

seems to be complete cure, her left arm moves naturally and her sight has returned. No epileptic fit since the trepanning (Translated by Dr. Henry P. du Bellet, American Consul at Rheims, France, in Texas *Health Journal*.).

OBSTETRICS AND GYNECOLOGY.

Intra-Uterine Cauterization.—Sanger (*Centralblatt f. Gynekologie; Am Jour. Med. Sciences*) in a paper on this subject, read before the Leipzig Obstetrical Society, criticizes sharply the generally accepted view that gauze when introduced into the uterine cavity acts as a drain. He believes that when the os is not stenosed the uterus drains itself, artificial drains simply acting to plug the canal and prevent the escape of the accumulated blood. The gauze only permits the discharge of a thin, watery secretion, but not the escape of purulent or viscid material and coagulated blood. There is neither disinfection of the uterihe cavity, as Abel maintains, nor the establishment of permanent drainage, as claimed by Skutsch. It is only after the removal of the gauze that there is an escape of the retained secretion. The rise of temperature often noted is an indication of this retention. The expression "gauze drainage" is incorrect; it should be "gauze tamponade." The gauze simply dilates the cervical canal and sets up uterine contractions, thereby increasing the circulation in the uterus. After its removal drainage is better because the canal is more patent. There is no medicinal effect from the iodoform. The writer has had better results from the use of gauze saturated with a solution of chloride of zinc; in fact, he uses the gauze tamponade merely as a preliminary to cauterization of the endometrium. The real action of intra-uterine caustics has been generally misunderstood. Gynecologists do not allow sufficient time for the caustic to act, but repeat the application at frequent intervals, without waiting for the slough to separate; hence frequently arise cicatricial stenosis and other bad results. Again, weak solutions are ordinarily used, such as tincture of iodine, acetic acid, dilute carbolic acid, and liquor ferri sesquichlor., which not only do no good, but, when frequently applied, often cause violent irritation and increase the local pain.

The writer's practice is to apply strong caustics at long intervals; fifty per cent chloride of zinc, introduced on cotton (wound around a silver probe) being suitable in all forms of endometritis. A narrow cervix, such as is often present in virgins or nulliparæ, is a contra indication. In this condition the writer first uses, experimentally, a weak solution of zinc (ten per cent) or tincture of iodine. The strong solution is applied at intervals of from sixteen to twenty days, two or three such applications being sufficient to cure a case of ordinary catarrhal endometritis. Erosions of the cervix he formerly touched with fuming nitric acid every three weeks, but now uses instead the strong solution of chloride of zinc. The thermo-cautery is the ideal aseptic caustic in the treatment of erosions. The writer, of course, places curettage before intra-uterine cauterization as a means of treating endometritis.

In the discussion of this paper, Zweifel agreed with the reader that gauze did not really drain the uterine cavity. He had abandoned the use of iodoform gauze as a vaginal tampon in cases of hemorrhage, preferring to use pledgets of cotton saturated with acetate of aluminium. Gauze introduced into the uterus checks hemorrhage, but only in the same way as any foreign body, *i. e.*, by causing contraction of the organ. He was inclined to go still farther and to affirm that gauze when introduced into the peritoneal cavity acts purely as a tampon and not as a drain.

Doderlein expressed the same opinion with regard to the inefficiency of so-called uterine gauze drainage. He was opposed to the common practice of applying a caustic to the raw surface left after curettage. Iodoform gauze has no medicinal action within the uterus; the iodoform is simply mingled with the blood-clot and is not absorbed at all.

To this Dr. Henry C. Coe, editor of the Gynecological Department of *American Journal of the Medical Sciences*, makes the following comment:

"We are glad to receive such weighty support of an opinion which we have held for some time, in spite of our habitual use of the gauze drain after curettage. Notwithstanding the emphatic commendation of this practice by eminent American gynecologists, we have long been in doubt as to the amount of drainage secured by tamponade of the non puerperal uterus, even after the cervix has been thoroughly dilated. In our experience not only has a frequent slight rise of temperature during the first twenty four hours after operation indicated retention of secretions, but drainage has only been free after removal of the gauze. Sanger's well-known iconoclastic tendency is supported by so much native keenness and common sense that we cannot afford to treat lightly his criticism of this generally accepted practice."

Surgical Treatment of Fibromyoma of the Uterus.—This subject continues to excite the keenest interest among abdominal surgeons here and abroad, as shown by the prominence assigned to it in recent society discussions. Not to speak of the papers read before our own societies during the past three or four months, the following have appeared in foreign journals (*Am. Jour. Med. Sci.*):

Leopold (*Centralblatt f. Gynekologie*) reports twenty operations with one accidental death at the end of the third week, due to pulmonary embolus. He claims for his method of intra peritoneal treatment of the stump that it reduces the loss of blood to a minimum, shortens the operation, and thus eliminates the element of shock. In one hundred and sixty operations for fibromyoma

performed since 1889 by all methods (including forty-six cases of enucleation per vaginam and forty of castration), his mortality was only 2.5 per cent. In twenty-four cases of total vaginal extirpation of the fibroid uterus there was no death, while the total mortality in ninety abdominal operations was only 4 4 per cent. The writer's present technique in supra-vaginal amputation is as follows: After delivering the tumor the upper part of the incision is closed. The broad ligaments are ligated with silk, the uterine arteries and veins being tied *en masse* when the stump is small, without securing the latter with an elastic cord. If, by reason of the unfavorable conditions, it is impossible to isolate the uterine arteries, the base of the tumor is surrounded with a rubber cord, the capsule is split, and the growth partially enucleated. The peritoneum is then dissected off as low as the cord, *i e*, to the point of attachment of the bladder, the tumor is removed, and the stump trimmed as much as possible, the vessels being at the same time ligated at about the level of the os internum, and the ligature cut short. The canal is cauterized, then the stump is transfixed and ligated in two portions with stout silk ligatures, which are also cut. The peritoneal flaps are carefully sutured over the stump with fine silk, including a portion of the subjacent cervical tissue, all pockets around the uterus having been previously covered over with peritoneum. The abdomen is then closed without drainage.

Demetrius (*Ibid*) describes a somewhat similar operation which, in his hands, was attended with a mortality of only 4.3 per cent in twenty four cases. He curettes the uterus and cauterizes the cervical canal as a preliminary step. In ligating the uterine arteries a portion of the uterine tissue is purposely included on either side, which not only serves as an efficient safeguard after hemorrhage, but renders the elastic cord superfluous. If there is much bleeding from the stump it is transfixed on both sides, the ligatures being passed through the tissue outside of the cervical canal from before backward. If the stump is large other ligatures may be used, but as none of these encroach upon the canal, it is left open for drainage, which is favored by the introduction of a strip of gauze. The raw surfaces are not covered with gauze. The peritoneal folds are simply allowed to fall together without being sutured.

The same writer thus summarizes with regard to the treatment of fibromyoma: All methods of treatment, including Apostoli's, which do not aim at the actual removal of the growth, are to be regarded as simply palliative. Castration is an uncertain measure, has only a limited application, and is opposed to the essential principles of conservative surgery, since the healthy (?) ovaries are sacrificed. Progressive increase of existing symptoms is an indication for removal of the tumor; palliative treatment under these circumstances simply aggravates the trouble and affects unfavorably the prognosis of the radical operation, hence the latter should be elected early. Vaginal extirpation of the myomatous uterus, when possible, is preferable to the abdominal method. Supra-vaginal amputation gives better results than total abdominal extirpation, and the intra-peritoneal method of treating the stump is preferable to the extra-peritoneal. There is no reason why the mortality of supra-vaginal amputation should not be as low as that of ovariotomy.

NOTES AND ITEMS

A Society for the Suppression of Hand-shaking, as leading to an exchange of microbes, has been established in Baku, Russia.—*Medical Record.*

The Numerous Friends among the readers of the REVIEW of Dr. J. H. McIntyre, of St. Louis, will be pleased to learn that he has moved his office and consultation rooms from 614 Olive Street to 2313 Washington Avenue, where he has fitted up one of the finest suites of rooms for professional purposes in this city. He cordially invites physicians visiting St. Louis to call and see him in his new quarters.

Nasal Reflexes.—For the diagnosis of "nasal reflex neurosis" Zarniko requires:

1. That every other possible explanation should be eliminated.
2. That there should be present some local reflex symptoms (for example, fits of sneezing), such as are known by experience to be frequently associated with remote nasal reflex neuroses.
3. That the inspection of the nose should reveal such changes as frequently set up reflex disturbances.
4. That artificial irritation (probing) of some area in the nose should excite the reflex symptoms.
5. That anesthetization of that area should put an end to them. In some cases he considers the last two points sufficient ground for the diagnosis.—*British Medical Journal.*

The Value of Our Mistakes.—It is always a pleasant thing to be right, but it is generally a much more useful thing to be wrong. If you are right, all that you do, as a rule, is to confirm your previous opinion, your previous habits of reasoning, and your previous self-esteem. But if you are wrong you generally gain in knowledge and gain perception of the way in which your method of diagnosis needs improvement, and the influence on self-esteem is not likely to do you harm. At least that is my own experience, and I think I have observed it confirmed in others. But the result is dependent on deliberate effort. There is a strong temptation to smooth down error, and it is very easy not to gain from it its precious lesson. It is more easy to fancy that there is some accidental cause for the mistake than

frankly to perceive that it is a fault. But if you make a deliberate effort to realize and to face in your own mind the mistake you have made, to discern its cause, and to employ this perception as far as you can to remove the cause and prevent a like mistake in the future —if you do this, almost every error becomes one of the precious experiences of your practical life.—Dr. W. R. Gowers, *Medical Record*.

Death As It Is.—Perhaps the most common mistake of the lay mind is the association of the dramatic with the conception of death. Nothing is more common than to hear from the pulpit, pictures in words of excitement, of alarm, of terror, of the death beds of those who have not lived religious lives; yet, as a rule, if these pictures are supposed to be those of the unfortunates at the moment of death, they are utterly false. In point of fact, ninety nine of every hundred human beings are unconscious for several hours before death comes to them; all the majesty of intellect, the tender beauty of thought or sympathy of charity, the very love for those for whom love has filled all waking thoughts, disappears. As a little baby just born into the world is but a little animal, so the sage, the philosopher, the hero, the statesman, he whose thoughts or deeds have writ themselves large in the history of the world, become but dying animals at the last. A merciful unconsciousness sets in, as the mysterious force we call life slowly takes leave of its last citadel, the heart, and what is, has become what was. This is death!—Cyrus Edson, in North American *Review*.

The Bacillus of the Hongkong Plague.—Dr. Kitasato, a Japanese specialist, who was for some years a pupil and afterwards assistant of Dr. Koch, has been sent by his Government to Hongkong for the purpose of investigating and reporting upon the histology and therapeutics of the plague prevailing there (Calcutta *Medical Reporter*). Dr. Kitasato's fame as a bacteriologist is wide, and his success seems almost a fore gone conclusion. He is assisted by Professor Aoyama, who received his training in Berlin, and has since been Professor of Medicine at Tokio. As a result of their researches so far the two specialists agree in identifying the plague now raging in Hongkong with the bubonic plague which devastated Europe first in the sixth century and that known as the Great Plague of London in the seventeenth century. They have further identified it, to a limited extent, with the sporadic outburst of plague which occurred in Astrakhan from 1878 to 1879, when a small shining bacillus was found in the blood of human patients. From the pathological description which the two gentlemen gave of a typical case of plague, as observed in Hongkong, it would seem that the period of incubation generally lasts from two to seven days, followed by prostration and high fever, starting from forty degrees, Celsius, and concluding with delirium and coma. But protracted cases are generally accompained by the development of bubes, boils, or petechiæ, convalesence setting in about the sixth day. As regards the biology of the disease, Professor Kitasato considers he has discovered the specific bacillus of the local form of plague, and Professor Aoyama agrees with him in describing this specific plague bacillus as being what is called in German a "stabchen" bacterion, having the form of very slender straight filaments of short length. This bacillus, found in the blood of plague patients, from the second day of the outbreak of the disease, and devastating the principal internal organs, has been indisputably identified as the real agent of the mischief by Dr. Kitasato. His colleague, Professor Aoyama, agrees with him in stating that unless the bacillus discovered at Astrakhan, but imperfectly described, was the same species, no such bacillus has hitherto been found in human blood. As to the manner in which the bacillus enters the human system nothing definite is stated by either specialist, though they are inclined to the belief that it is drawn from the air by breathing. The dirty habits of the Chinese make Hongkong a favorable breeding ground of disease, but the plague not existing there endemic in Yunnan. The destruction of the bacillus is now the main object of the professors. There is no alternative, either the patient or the bacillus must die, and specific bacteriocides are anxiously being being sought for. Experiments made by Dr. Kitasato in breeding and multiplying the specific plague bacilli discovered in Hongkong, and in inoculating different animals with the preparations of the virus thus obtained, have invariably produced within two days the death of these animals under conditions conclusively exhibiting the symptoms of plague. The success of the two professors is eagerly hoped for by the authorities, and it is firmly believed that they will discover the means to cope with the terrible disease which at present defies all medical treatment. Dr. Kitasato's counsel as to the precautionary measures to be adopted are worth while remembering. He thinks that the precautions against cholera ought to be equally effective in this epidemic. Drinking none but sterilized water and avoidance of indulgence in raw food-stuffs ought to be sufficient protection against infection. In the case of cholera, germs of which disease are carried through the air, absolutely efficacious precautionary measures are extremely difficult; but when an epidemic attacks principally the digestive organs, strict attention to diet, we are reminded, is generally a safeguard.

Why I am a Reporter.—What one of the most literary women says and whose name we are not permitted to mention: "There are days when the wear and tear, the excitement and the physical labor almost carry me under and make me waver in my resolve to bid a long farewell to the indolent life of a pampered literary star, but when that cowardly feeling threatens to carry the day, I know that I am 'nervous,' and that I need a 'bracer.' Cocktails are mannish and vulgar, Turkish

baths are a failure, but a dose of the Bromo Soda of William R. Warner & Co., which like all brain-workers I have learned to keep at hand within my own home, soon sets me to rights again without subjecting me to any demoralizing dangers, and almost 'makes a new man of me,' or would if that feat were possible."—*Traveler*, August 4, 1894.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Properties of Various Clothing Fabrics That are Used in Blanketing the Horse.

BY J. H. GARDNER, V S.

The object of clothing is to protect the animal body against heat in summer and cold in winter. The clothing best suited to supply comfort to the body and to protect it against sudden changes of atmosphere and injurious surroundings, such as heat and moisture, is a chemical equation not easily conceived. An animal body is continually giving off heat by the evaporation of water, which produces a radiation of heat. In warm weather our object is to promote and excite this loss, and in cold weather our motive is to avoid it as much as possible. Clothing in all cases should be light and also of such a texture that will readily allow the escape of the excretions from the skin, as imperviousness is always objectionable, as diseases of a serious nature may arise from the non-escape of cutaneous excretions. Linen, which is the best conductor that is applied to the horse, as clothing or a blanket favors the escape of animal heat more readily than either cotton or wool; it also absorbs a vast amount of moisture from the surface of the body and rapidly gives it off to the external air; it is well adapted for summer use, as its cooling effect on the body is marvelous. A single linen sheet under any circumstances should not be worn, as the escape of heat is too rapid, and to guard against any serious results two layers should always be adopted, as a stratum of air, which is an excellent non conductor of heat, be enclosed between the two layers irrespective of quality, and will prevent a chill from external causes.

Cotton, which is a less conductor of heat than linen, is the next fabric to be considered. A cotton sheet is consequently warmer than linen, for it absorbs a less amount of moisture, and at times and in certain stables where the hygienic conditions are not of the best, cotton is always to be used in preference to linen for the above causes.

Woolen fabrics are slow conductors of heat, due to the imprisoned air that is entrapped and held within its interstices, and when the interstices of a blanket are sufficiently far apart to retain the air, the body or that portion of it that is covered by a garment is actually encased in a sheet of air, and the heat from the body prevented from escaping to the external. In all clothing, if the object is warmth, the texture should be sufficiently close to protect the body from currents of air passing inward. Woolen possesses the power of absorbing large quantities of moisture, but in some blankets give it off very slowly; this is of the hygroscopic order, *i.e.*, where the fibers are closely woven and the spaces are comparatively small; in this variety the water is taken up by the fibers. A test for this kind of cloth will be found in wetting the covering and endeavoring to wring the water or displacing it by pressure; only a small quantity can be got rid of in this way.

Another variety of wearing apparel that is applied to the horse is known as blanket, of water of interposition, *i.e.*, where the water is absorbed and held by the interstices, and the fibers in this case will be found comparatively dry; this species of blanket can be freed from superfluous water by a slight twist or a moderate amount of pressure. All covering should be loose-fitting, as they are warmer. Tight fitting garments obstruct the circulation.

Several layers of thin blankets are warmer and healthier than heavy coarse ones, as between each layer there is retained a stratum of air which occupies the space under each additional layer. So, as a safeguard against sudden changes and to supply comfort, several layers is best in all cases. There is no garment that a horse requires that equalizes the temperature as wool does. The influence of color is an important factor in the selecting of a blanket. Black absorbs the greater amount of heat. Blue comes next in order; then green, yellow and lastly, white; dark clothing absorbs more moisture than light colored material; black absorbs nearly twice the amount that white does.

Brain or Stomach?

BY ERNEST MORGAN, M R C V S, SOUTH HOUSE, FAVERSHAM.

The following four cases have occurred in my practice during the last month; they are so peculiar that I think a few notes may be interesting to members, and someone may enlighten me as to the probable cause of the attacks.

CASE I.—A brown cart gelding, aged 11, I found standing with his four legs in the manger of a shed, and his nose elevated and pushed through the wooden partition, he was sweating profusely, and constantly fight-

ing the wall with his fore feet. I had great difficulty in moving him, but at last succeeded in pulling him on his back, from which position he got up himself and stood with his nose almost touching the ground. Temperature 101° F., pulse 50 and strong. He was bled and physic administered; the next day he had great difficulty in masticating, the jaws being almost fixed; he was blistered behind the ears, and recovered in about a fortnight. His food was soaked maize, wheat chaff and green clover. He had an exactly similar attack sixteen months ago, and a slighter one in October last; since the first attack he has always carried his head low.

Case II.—A grey mare, 9 months old, taken ill whilst at work. I found her with her head held low and pushed in the corner; when moved she fell down; she was got up and walked, or rather fell, into the yard. She could scarcely see, pulse 45, and hardly perceptible at the jaw, temperature 101.4° F.; physic was given, which did not act, and a blister applied behind the ears; occasionally she would try to eat but the jaws seemed almost powerless. As she fell about in all positions and there was a lot of water in the yard, a halter was put on and held by a man, she then walked in a circle, constantly falling; she would lie quite still a few minutes and on rising stumble on her knees and head perhaps ten yards, and then continue walking. She gradually got worse and finally was unable to rise; she was shot on the fourth day. The brain was shattered by the shot; stomach and intestines healthy; kidneys and liver showed slight traces of disease; bladder empty; heart and lungs healthy; she was feeding on green rye and tares, crushed maize and wheat chaff. She had a slighter attack two years ago.

Case III.—A brown cart mare, 14 years old, was taken ill at work, almost exactly similar to Case II, with the exception that when I saw her she could not walk five yards; temperature 101° F., pulse 60 and full. Her head was much swollen from constantly dashing it against the boards, partial sweating about the neck and flanks; she fell frequently; she was bled and physic administered. On the third day she was unable to rise so was shot; I did not have the opportunity of making a post-mortem examination. Her food was dry clover, beans and soaked maize.

Case IV.—A brown cart gelding, 11 years old, very similar to No. 1. The message I got was, that the horse had gone mad. I found him standing in a loose box with his head pressed in the corner, I moved him and he walked backwards about five yards, elevating his head in jerks, then he made a dash forward, got his fore legs in the corner of the manger and commenced pawing the side of the box, the perspiration literally streaming down him. I was a long time before I could get near him, but eventually bled him and gave a dose of physic; the next day he was almost blind, and for three or four days he was very dull and carried his head down. He could suck a little nourishment from a pail, but a mouthful of green food it would take him three or four minutes to masticate. Since then he has made gradual improvement, but still (thirteen days from the attack) carries his head lower than common. His food was green tares, wurtzel, soaked maize and wheat chaff. —*Veterinary Record.*

Rupture of the Rectum Due to Calculus.

BY ALFRED PEELE, F.R C.V.S.

As the symptoms in the following case differ from those exhibited in Mr. Brown's, recorded in your issue of the 14th instant, I thought it might be of interest.

On Sunday, May 20, at 5 P M., I was called to attend an aged chestnut cart gelding. The driver tells me he had a long day's work on Saturday, but about midnight he left him right. On coming into the stable on Sunday morning he found him dull and his bedding disturbed as if he had been in pain during the night, but being subject to attacks of colic, and not showing what he thought urgent symptoms, he did not feel much concerned about the horse. I found the horse in a state of collapse and was told that about 8 A.M. a little blood had been passed per anum, and also that he had passed blood colored urine.

I made a rectal examination and found the bowel distended and dry, anteriorly it seemed constricted owing to swelling of the mucous membrane; on removing my hand, it and my arm were covered with clotted blood.

Although I suspected calculus with rupture of the bowel I could not find the stone when examining per rectum. The horse died at 7 P.M.

Post-mortem examination showed a longitudinal rupture of the floor of the rectum and after removal of stomach and bowels a phosphatic calculus was found in the abdominal cavity. The calculus has a rough surface, is slightly larger than a cricket ball and weighs twelve and a half ounces.

In this case there was no attempt at vomiting. The rupture probably took place at 8 o'clock. I remember when an assistant attending a mare for bowel obstruction and she passed a smooth phosphatic calculus quite as large as the one in the case related; the mare did well afterwards.—*Veterinary Record.*

Palpitation of the Heart.

℞	Ferr. reduct.,	ʒj.
	Pulv. digital.,	ʒss.
	Strychnin. nitric.,	gr.j.
	Quinin. sulphuric.,	ʒss.
	Ex, gentian.,	q. s.

M. f. pulv. No. xxx.
Sig. One pill three times a day.

Relaxation of Uvula.

℞	Lig. ferri perchlor.,	fʒij.
	Glycerin,	fʒj.

M.
Sig. Apply with camel's hair brush.

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MEDICAL REVIEW.

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ORIGINAL ARTICLES

Report of Two Cases of Scirrhus Carcinoma of the Uterus.

BY R. M. KERLEY, M.D.,

Superintendent Female Hospital, St. Louis, Mo.

Compiled by A. W. LATIMER, M D., Assistant Physician Female Hospital, St. Louis, Mo.

CASE I.—Jennie B., colored, aged 30; nativity, North Carolina; occupation, servant; married; admitted to the hospital August 10, 1894.

The family history of the patient cannot be obtained as her statements conflict and are totally unreliable.

She knows little of her childhood, but states that she has always been healthy. Patient began to menstruate in about her fourteenth year and has always been regular until her present trouble began. The flow generally lasted three or four days, and without pain, or inconvenience. She has borne two children, both well and healthy, and has had no miscarriages. Her habits are regular and hygienic surroundings were good.

Physical Examination—When entered at the hospital she was well nourished, the skin being warm and elastic, the tongue slightly pale, moist and clean. Bowels were of regular habit. Pulse, good volume and tension, seventy per minute. Respiration and temperature normal. No lesion of the heart or lungs was found. Liver and spleen enlarged.

Present Trouble—Began several months ago by irregular and profuse menstruation, but she suffered but little inconvenience until three weeks ago when she began to have sharp, lancinating pains in the lower part of the abdomen and back, increasing on exertion and motion of the parts; at times standing seemed to increase the pain, making her unfit for the duties of life.

She began to flow profusely three weeks ago and had not ceased at the time of her entry into this hospital.

The vagina irrigated, the patient was examined, and about two ounces of black, ichorous clot removed, which had a gangrenous odor.

The cervix uteri had sloughed away, leaving roughened edges and numerous nodules surrounding the ulcer on the vaginal wall, and when touched the tissues bled freely. The adjacent tissues were all infiltrated and indurated.

A clipping was removed for microscopical examination, the entire surface covered with iodoform, and a wool tampon saturated with glycerite of tannin was introduced.

Under this treatment repeated every alternate day the pain gradually subsided and the hemorrhage diminished.

An operation was advised but not consented to.

Urinalysis—Normal.

Diagnosis—Medullary, scirrhus carcinoma of the cervix uteri.

August 31, 1894. Patient is feeling quite well, has very little pain, and requests her discharge from the hospital.

CASE II.—Mrs. M. C., aged 47; a widow for the last seven years and a resident of this city for forty years; is a servant by occupation. She entered this institution on August 14, last, and gave the following family history: Mother died when patient was five years of age, supposedly, from history, of phthisis pulmonalis. Father died of la grippe four years ago in his seventy-fourth year. One sister died of typhoid fever; two brothers and one sister were living and healthy when last heard from, several years ago.

Patient's Previous History—She has had several diseases peculiar to infancy and childhood but never had scarlet fever. Has had several attacks of malaria and one attack of acute articular rheumatism four years ago, and at the same time suffered from facial erysipelas. Had childbed fever after her first delivery at the age of seventeen.

Hygienic surroundings very good, excepting four years' exposure to miasmatic influences.

Habits very regular, and always worked hard.

Menstruation was never regular, lasting but one or two days; at times the flow was very scant and always attended with pain, rendering her unable to perform her usual duties. It ceased entirely two years ago.

Lower extremities became edematous one year ago, at first only perceptible after much walking, the swelling disappearing after rest. This has returned several times since. Patient is subjected to headaches and vertigo, and is of constipated habit.

Present Trouble—Began about eight months ago with a feeling of general malaise, weakness and stupor. This condition lasted about three weeks and terminated by coma of three or four days' duration, during which time she vomited a large quantity of clotted blood (an ordinary water bucket full). For four months following she was bedridden after which she was able to go around with assistance.

Present Condition—The patient has a careworn expression, countenance appears anxious, she is emaciated and anemic; the skin has a bluish hue, wrinkled and inelastic. Cachexia very slight. Muscles flabby. Appetite fair but easily nauseated. Bowels are constipated. Patient has had night sweats every night for the past week and has had intense pain before and after urinating, until incontinence, which began a month ago, now the pain is continual. Urine contains one eighth of one per cent albumin, granular and fatty casts, specific gravity 1022, reddish yellow color, and no sugar.

Physical Examination—The chest is elongated and flattened; supra clavicular spaces greatly depressed, and breathing irregular, jerky and almost entirely diaphragmatic; inspiration short, expiration prolonged; vocal fremitus increased over both upper lobes of lungs with a slight dullness over the area on percussion; large and small, moist and bubbling rales on auscultation; cough, principally at night and early in the morning. The sputum is muco purulent, tenaceous and munular, and bacilli were found in great numbers on microscopical examination. The heart sounds are very sharply defined, almost having the atheromatous click; no valvular lesion can be determined at present. Abdomen is distended and very tender, especially over the liver and spleen and epigastrium. The liver and spleen are enlarged. Upon digital examination of the anterior rectal, the vaginal and urethral walls, nodules were distinctly felt, and the surfaces bleed easily. The adjacent tissues felt hard and indurated and all of the parts seemed fixed. There was no discharge from the involved parts. Has a well defined stricture of the rectum two inches above the internal sphincter. The microscopical examination of a nodule from the lower part of the vagina near the posterior commissure which Dr. H. Carter prepared and stained was about the size of a pea with undermined edges, separated from the adjacent structure by the process of ulceration. In one portion, particularly, were groups of large granular epitheloid cells of different shapes and sizes lying on a stroma of connective tissue more or less altered. The alveoli were of various sizes, containing nests of cells closely packed with no blood vessels. Here and there were found in the alveoli connective masses of horny epitheloid cells. The specimen I judge is of the deep squamous epithelioma.

Diagnosis.—Scirrhus carcinoma, phthisis pulmonalis, second stage, and chronic interstitial nephritis.

Treatment.—The cancerous condition has progressed to an extent not justifying surgical interference. The treatment is therefore symptomatic, directed principally to the pain, which is almost constant. ℞ Syrup papaveri, ʒj to ʒiij three to five times a day, for insomnia; Neurosine, ʒj at bedtime. The patient is made as comfortable as possible and is given nutritious food, and the surroundings the most pleasant obtainable.

The most trivial complaint on the part of a patient, whom we should suspect of a disease of this character should be closely looked after before the opportunity to afford them the only avenue for relief or escape (if only for a few years) has passed.

There is nothing that affects the mind of a patient more than the dread of cancer, hence the importance of an early and correct diagnosis. The above two cases are the extremes of several cases at present in this institution. In Case I the surgeon's knife would be of inestimable value—had my patient been ordinarily intelligent and able to comprehend the result of delay—which is illustrated in Case II by the treatment prescribed, which is at the present time added too, for relief of uremia.

Country Surgery.

BY G. W. HOLCOMB, M.D., CLINTON, MO.

In these days of prolific surgery there are many varieties of surgery and surgeons. We have the eye surgeon, the ear surgeon, the gynecological surgeon, the orthopedic surgeon, the rectal surgeon, the genito-urinary surgeon, the brain surgeon, and so on, ad nauseam. Lastly, we have the city surgeon and the country surgeon. The contrast between the city and country surgeon (as seen by the light of current teaching and literature) is bold and ridiculous. The city man has a peculiar knowledge of anatomy. He does not read Gray or Wilson as the countryman does. He dissects a different cadaver—a cadaver to which the country surgeon is a stranger. He has a mysterious and recondite way of getting pathological knowledge which the country surgeon has not. He has superior manual dexterity, has peculiar and costly instruments which his country brother cannot buy. His technique is too complicated for the country. His air and surroundings are more aseptic than in the country. He has sublimate solution, gauze, nail-brushes, soap, and so on, which are not for sale in country drug stores. Lastly, the city surgeon has hypertrophied cheek and pathological arrogance more abundantly than the country surgeon. This gives him great prestige as a pusher and claimer over his country cousin, and fits him in an especial manner for the routine duties of the city surgeon.

All this seems to be, and in fact is, ridiculous. Yet, in all seriousness I take it that these conclusions and assumed facts do exist and are chargeable to the teachings of the surgeons in the schools and hospitals and the papers read before our societies and published in our journals. It is an absolute and melancholy fact that a large per cent of our students of to day leave the

college walls with the belief firmly fixed in their minds that it is almost criminal for a country doctor to undertake a serious surgical operation. That a suit for malpractice will surely follow. That the surroundings are unfavorable, the instruments and appliances can not be had. And therefore all surgery should be sent to the city. This state of affairs is unjust and unwarranted, and it is high time for the country doctor to inquire why are things thusly, and in self-defense seek for and apply a remedy. If neoplastic in origin, extirpate. If bacteriological, use a parasiticide and thus restore our medical body to its normal condition. In the concluding part of my paper I shall report a few cases of laparotomy in the country which have a tendency to convince me that in results the country surgeon is well up, if not in advance, of the city surgeons.

The Mississippi Valley Medical Association.—The twentieth annual meeting will be held at Hot Springs, Ark., November 20, 21, 22 and 23, 1894. The Secretary announces that many valuable papers have been promised.

Jacksonian Epilepsy Due to Auto-Intoxication of Gastric Origin.—In the *Rivista Sperimentale di Freniatria edi Medicina Legale*, Dr. Cristiani describes a very interesting case of Jacksonian epilepsy, due to gastric intoxication (Buffalo *Med. and Surg. Jour.*). The patient was a man 52 years old, strong, healthy, with good family history, no history of vices or excesses; no disturbances of any of the sensory or gans, no arterio-sclerosis, no malformation of head or scar on scalp; urine normal in quantity and quality. For some years he has suffered from stomach and intestinal disorders, such as loss of appetite, nausea, ructus, pyrosis, tongue coated, mouth dry and bitter, bowels constipated. Occasionally, besides these symptoms he would notice paranesthesia of the limbs, flushings, then coldness of the extremities, and such mental symptoms as depression, melancholia, hypochondriasis, irritability, cephalalgia and vertigo.

On the morning of September 8, 1892, he had the first attack. The aura was distinctly felt, consisting of a feeling of heat in the head, anxiety and precordial oppression. He then felt creeping sensations in the arm and leg of the right side, followed by clonic spasms first of the right arm then of the right leg, and at the acme of the attack the right side of the face would become involved. These paroxysms would last from five minutes to fifteen minutes, with no loss of consciousness, would not fall to the ground, but, in a vacillating manner, stagger to the right. On the first day he had three attacks, then about one attack every other day for two weeks. The pupils were dilated, patellar reflex exaggerated on the right side, and urine contained an excess of urea and phosphates. The treatment directed to the gastric catarrh had the effect of controlling the attacks, and in over a year they have not reappeared.

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and as a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

All letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, should be addressed to 914 Locust Street, St. Louis.

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Wanted—Medical Students.

We had thought that this article had existed in abundance, but we evidently have been mistaken. Even the addresses of medical students are at a premium, if we may be permitted to draw such a conclusion from a "*want ad*" which appears in one of the medical journals of this city. Here it is:

"Any physician who will send me the name and address of one (or more) medical students will be credited for one year's subscription to this journal."

This is a generous offer and the scheme will probably work well. But we know of one which is incomparably more effective and which is said to have been worked with marvelous effect by one of the erstwhile professors of the same school, but which is now graced by the talent of this professor.

Here is the wording of the "*ad*" to be published in the weekly country papers:

"Anybody wanting to study medicine will hear something to his advantage by applying to Dr. X., P. O. Box, ———."

Try this one if the offer of one year's subscription gratis fails to evoke response. We have been credibly informed that it never failed before. Be careful, how-

ever to make arrangements with the respective publishers to send a marked copy to the sons, brothers, cousins and aunts of physicians and of the clergy.

If all these details are conscientiously attended to, we have no doubt but that the dean and secretary of the school in question will succeed in making it the *best*, as they are taking pains to assert in their advertisements.

Influenza Bacilli.

The bacilli of influenza which have been invariably found in large numbers in the bronchial secretion of influenza patients by various trustworthy authorities are easily cultivated upon the usual nutritive media. They usually die off in twenty-four hours so that the danger of being inhaled with the dust appears very small, making allowance, of course, for Koch's statement, that in nature bacteria often behave differently than in the laboratory experiment. R. Pfeiffer was the first auther who described the influenza bacilli that are now suspected to be the cause of influenza. According to Kruse the microscopic examination of the bacilli can be made in a short time, as they are present in the sputum in large numbers in the beginning of the disease and even before. If they have once been recognized they are not easily mistaken for other micro-organisms that may be present in the sputum. The bacilli are very small in comparison to other bacilli and may be stained with a saturated solution of Fuchsin in a five per cent solution of aqueous solution of carbolic acid. In this staining fluid they have to remain for ten minutes as they require a longer time to be stained than other bacilli. Being frequently found in pairs they resemble pneumococci, but according to Kruse they can hardly be mistaken, as in typical cases "they are very regular in appearance and are present in such enormous numbers that the bacteriological diagnosis is very simple. Their number, however, soon decreases, but they may be found in small numbers for a long time."

The Treatment of Diphtheria With Immunizing Serum.

Judging from the reports of our contemporaries and the daily press a reliable remedy for diphtheria has at last been found in the form of an antitoxin or immunizing serum and the New York City Board of Health has asked for an appropriation of $30.000 with which to defray the expense of producing this antitoxin and according to the *Journal of the American Medical Association* "our English cousins look with favor upon the New York method of diagnosing diphtheria by bacteriologic examination. (It seems proper to call this the "New York method," since it was the Health Department of that city which first made such examination feasible and practical; although its general adoption throughout the country might now entitle it to be called the American method). In his annual report for 1893, Dr. Francis Allen, Medical Officer of Health for the Strand district of London, advocates the adoption of this method of prompt diagnosis and appeals to the Metropolitan Asylum Board to make arrangements for the supply of culture tubes and the carrying out of the necessary cultivations, etc."

With regard to Behring's serum (Heilserum) a Berlin correspondent of the "*Journal*" writes as follows:

"The Professors Ehrlich, Kossel and Dr. Wasserman, in Berlin, have published a paper on the application of curing serum as invented by Prof. Behring, assistant of Prof. Koch. Behring had undertaken to give an immunity from the diphtheritic poison and after that to get a serum from the blood of those animals, by which he hoped to protect individuals of the human race against the results of diphtheria as well as to cure the disease when already developed in an individual. Ehrlich, Kossel and Wasserman have followed Behring in his experiments. They always had in view to use the results of their experiments for curative purposes. They experimented on goats. We will say nothing of the technical dates for giving the serum. Two hundred and twenty patients with diphtheria were treated with the serum. Of these there were cured 168, or 76.4 per cent; fifty two died. Tracheotomy was performed in sixty-seven cases, of which thirty died; the rest recovered. But a true insight of the curing effects of the injections is gathered only by grouping the number of the diseased people by the days after the infection on which the treatment was begun:

Day after beginning of Treatment.	Treated.	Cured.	Died.	Percentage of Cures.
First day.....	6	6	0	100
Second day....	66 (9 tracheotomies)	64 (7 tracheotomies).	2 (2 tracheotomies).	97
Third day.....	29 (8 "	25 (7 "	4 (1 "	86
Fourth day....	39 (14 "	30 (10 "	9 (4 "	77
Fifth day.....	23 (10 "	13 (4 "	10 (6 "	56 5

"It is to be seen by this table of dates that the safety of the serum treatment depends essentially upon the date on which the treatment of the children is begun, and that on the first day results were had never seen before. Of seventy-two children received at the hospital during the first two days of the disease, there were only two deaths; of seventy two cases treated without serum after statistics reaching over twenty-five years, there were twenty-five deaths, or 34.7 per cent.

"The above named experimenters give the following

points of view for the treatment with their serum of those children sick of diphtheria:

"1. The fate of the children depends upon the treatment during the first three days of the sickness. Therefore the serum should be injected as soon as possible after the beginning of the disease.

"2. As there must be a surplus of antitoxin in the sick body, the dose of commencement should be, in light cases, at least 200 unities of immunization (A dose of antitoxin serum equal to avoid in the body the consequences of the poisoning with diphtheritic poison, is called by the author a "unity for immunization).

"In cases of gravity and in those tracheotomized, 400 unities were needed. The treatment with serum should be continued some time after ceasing of rise of temperature and of the local inflammation. The total amount of dispensed serum may reach in a single case (in corre spondence with the gravity of the symptoms) 500, 1,000, 1,500 unities of immunization."

Amateur Laparotomies.

The Associated Press says the *Medical Age* is respon sible for the statement that Dr. Thomas O'Reilly, of St. Louis, inspired by some incident brought to his notice as medical consultant, and which he refuses to reveal, wrote a letter to the Health Commissioner of that city calling attention to the many deaths resulting from laparotomy. He characterized the knife of the surgeon when employed in such operations to be "fully as dangerous as that of the assassin," and in the name of hu manity asks the Commissioner to devise some measure whereby sufferers may be protected from this operation except where it is recommended by two or more responsible physicians.

There is perhaps some error in this statement; but whether there is or not, the idea embodied is certainly an excellent one. The craze for opening the abdominal cavity, on the part of raw and irresponsible individuals, fledgelings just from college perhaps, has attained such magnitude that it certainly requires some means devised whereby to keep the wholesale slaughter in check.

The number of laparotomy and appendicitis operators has risen into the thousands; every cross-road possesses at least one or two, and each one looks askance at his fellow practitioner lest he should succeed in securing one more operation than himself; every journal teems with reports of such operations, some real, often pure fabrications, and the end is not yet! The "belly-rippers" are certainly in the majority.

When will teachers and students learn there is something in surgery besides bacilli and knife, and that the true art lies in conserving rather than in attempts to emulate the shambles of the butcher?

It is high time common sense was made a part of the curriculum of medical schools, and likewise to take the place of self-laudation now indulged in by half-educated teachers who "cut for record," being anxious to convince the world, especially the medical student portion thereof, that they alone are the greatest representatives of the specialty they purport to practice.

MEDICAL SOCIETIES

The British Medical Association.

Sixty-Second Annual Meeting, Held at Bristol, July 31 to August 4, 1894.

We are indebted for this report to the *Medical Record.*

SECOND DAY, THURSDAY, AUGUST 2.

SPINAL SURGERY.

MR. W. THORBURN introduced the discussion on "The Surgical Treatment of Injuries of the Spine and Spinal Cord." To begin with, he would classify injuries, dividing them into eight classes as follows: 1, Unilateral dislocation; 2, bilateral dislocation without recoil of the displaced bone; 3, bilateral dislocation with recoil of the displaced bone; 4, fracture without recoil (diastasis); 5, fracture with recoil; 6, injury of lamina or processes; 7, compound fractures; 8, secondary lesions—hemorrhage, meningitis, etc.

After a careful survey and study of the subject his conclusions were that fracture-dislocation and dislocation were not difficult to reduce, but that the chances of recovery of the cord were not much improved thereby. A cord once crushed was incapable of recovery, as was shown by experiments as well as clinical experience. Any apparent recovery was due to vicarious conduction, some parts of the cord having escaped damage and being used instead of those normally employed.

The advantage of reduction simply was that a straight spine was better than a crooked one should the patient recover; but, on the other hand, reduction of dislocation in the cervical region was not without danger to life, and the more dangerous the higher up the injury. Reduction might be said to be safe and useful in unilateral and some bilateral dislocations When the dorsal region was the site of injury reduction was not often possible.

As to laminectomy, in most cases of injury it was useless because when there was recoil of the bone the lumen of the canal was restored, and there was no pressure in at least two-thirds of the cases, and when there was no recoil, although laminectomy might be possible, yet there was not much hope of recovery, for nearly all the cases, even when there was recoil, ended fatally. When the continuity of tissue in the cord was once interrupted no restoration took place. He had found records of two hundred published cases and had personal

experience of seven. In these seven he had seen no material benefit from laminectomy in any case. Subsequent improvement was not due to the operation. In compound fractures (such as those caused by gunshot) he would remove fragments of lamina or other bone simply as a part of the wound toilet. When the laminæ were primarily injured operation was useful. There was no natural recoil and the cord was generally less crushed, and while the fragments of bone were usually small they might be doing harm by irritating and pressing on the cord. The gypsum corset was, no doubt, useful late in the case, but he was very doubtful whether it was of use immediately after the injury, while there was danger of the unseen formation of pressure sores and extensive sloughing.

Dr. H. L. Burrell, of Boston, U. S. A., said that he had a basis to go upon of eight cases of laminectomy of his own and four of his colleague's, besides the collected records of 178 cases. The hopelessness of the condition when left to Nature was well known and was demonstrated by him in a paper on the subject published in 1887. He then recommended that in all cases of dislocation and fracture dislocation an anesthetic should be administered with as little delay as possible, for irreparable damage was done by allowing pressure to continue even for one hour. The patient should be suspended and forcible rectification practiced, and a gypsum corset be applied. By the use of this method he had secured some brilliant results, but since the introduction of operation he had given it up for laminectomy. The do-nothing treatment should certainly be abandoned.

Immediate reduction had increased the recoveries by eleven per cent, and if such a blind method did so much good an operation that enabled the surgeon to see for himself the exact condition and remedy the displacement without doing more than needful must certainly do still more good. He doubted the possibility of an exact differential diagnosis, and therefore would operate on all cases.

Mr. C. B. Keetley mentioned a case in his own practice in which he applied a Sayre's jacket without attempting reduction. The patient entirely recovered. In another case of cervical fracture dislocation produced by diving from a height into a swimming-bath, anesthesia and paralysis were complete in both arms and legs, but the right arm was somewhat contracted. He operated, removing the laminæ of the third and fourth cervical vertebræ. The lower margin of the fourth lamina nearly touched the fifth body. After removing the laminæ the cord seemed to return to its normal form; and there was afterward some return of power of movement, but the patient died on the fourth day. At the necropsy it was found that the cord was cleanly and completely divided but the dura mater was uninjured. He thought the operation in general was not a hopeless one, but that we should be eager to operate. The risk of the operation itself was small. The dura mater need not be opened, and thus it was a little more dangerous to operate on a case of simple fracture-dislocation than of compound. Still it must be admitted that the operation had its risks. He had operated on another case of fracture in the cervical region, but the patient died almost immediately. The necropsy showed fracture and hemorrhage at the base of the skull.

Mr. Gilbert Barling was quite in accord with Mr. Thorburn. We should beware of reckless operations which would only tend to bring laminectomy into contempt. A knowledge of the nature of the accident would often forbid operation, because we may often be sure from the extreme violence in indirect injury that the cord is divided or pulped, and in that case laminectomy was only "a crude way of administering euthanasia, in which we are not justified." He was quite sure that the operation had its own risks, and therefore it was wrong to employ it indiscriminately. He described two cases, one of direct violence to the side of the neck and arm—palsy, probably due to hemorrhage, ending in spontaneous recovery, and another of great indirect violence causing displacement of the twelfth dorsal spinous process and palsy of the bladder and lower limbs. Now, two years after the accident, there was complete recovery except for some patches of anesthesia. This patient refused operation. This was one of the most hopeful cases for laminectomy, yet the operation would not have improved the result.

Mr. Barclay, of Bristol, thought that there was a tendency to be too cautious in these cases, but when there was a displacement of one vertebra from another, with recoil, operation was hopeless. When, however, there was no recoil and obvious displacement we ought to give the patient the chance afforded by laminectomy, and if necessary chisel away the projecting edge of the vertebral body which pressed on the cord. In cases of injury and displacement of a process or processes, if diagnosed, he would operate, but the diagnosis was often difficult. In cases where hemorrhage was diagnosed he would also operate.

Mr Damer Harrison said that in his opinion operation was rarely called for; those cases which he had wished to operate on and had been prevented had generally recovered. Fixation was the best treatment for fracture-dislocation. He used a box splint, flexed the thighs, and drained the bladder, when it was palsied, by a perineal section, and was thus enabled to prevent decomposition of urine and cystitis.

Sir William Stokes, of Dublin, did not think that laminectomy alone could entirely relieve pressure, because the cord would still be stretched over the projecting body in front. He did not think removal of the projecting body possible without risk of increasing the injury to the cord; operation for direct injury was much more hopeful. He found that these patients did not bear fixation well, and there was great risk of sloughing under the gypsum jacket. He had never found any need of perineal section, but had succeeded in keeping the urine and bladder healthy by the use of boric-lotion injections.

Mr. Reginald Harrison detailed a case showing the

benefit of immediate extension. He agreed with Mr. Thorburn and others as to the hopeless injury caused by indirect violence.

Surgeon-Major Hatch was not very sanguine about the operation. He had had five cases at the Jamsetjee Hospital in India; of these one was a case of injury to the cervical region and four of the dorsal region. In the first case there was meningitis present at the time of operation. No improvement followed. The patient died three months afterward. Necropsy showed that there was no pressure, and only slight narrowing of the lumen of the canal.

Of the four cases of dorsal injury three died after laminectomy; in two the projecting vertebral body was gouged away without much difficulty and gypsum applied in the prone position; one of these died, the other improved after fourteen days, and was still improving. Of the other fatal cases one was found after death to have an abscess on the canal below the lesion, the other died at the end of a week. He thought that reduction of the dislocation was not at all necessary. The difficulty of diagnosis was very great, and therefore he would operate to help the diagnosis, seeing that the prognosis was so bad. He did not think that secondary operations were hopeful. He believed there was a future before the operation.

Mr. Jordan Lloyd said that no one surgeon had a large personal experience of such cases. Fractures of the spine varied much in severity. Fixation gave good results. Cases of indirect violence were best left alone (except for fixation), and he would not consider operation in them. Cases of direct injury—generally in the dorsal region—were, however, amenable to operation. He had only operated on one case of recent fracture. The patient died. He would not operate on such a case to day. He had, however, removed the laminæ of four or five vertebræ, eight years after the injury, for incon tinence of urine and feces, and the patient recovered control of them completely.

Mr. Noble Smith claimed to have benefited a case of fracture by the application of a spinal support pressing on the projecting bone. He had performed laminectomy in one case eight years after the accident. Improvement followed.

Mr. Thorburn, in replying, said that there seemed to be a general agreement as to the facts. There were at least two hundred cases recorded, and probably many less successful cases not recorded, hence, without waiting longer we were in a position to judge of the value of the operation. He could fully confirm what Surgeon-Major Hatch had said as to the feasibility of lateraliz ing the cord and gouging away the projecting body. A mistake in diagnosing the exact site of the injury was not important, it was easy to extend the incision and go further (generally higher).

Flat-Foot.

Sir William Stokes read a paper on flat-foot and described Gluck's operation of section of the os calcis and tendo Achillis in order to slide the bone downward and forward. He preferred to this and to Ogston's operation a cuneiform osteotomy of the astragalus so as to replace that bone within von Meyer's triangle. He showed casts of a foot before and after operation.

Mr. Keetley preferred Ogston's operation, but in a severe case he had had to supplement it by osteotomy of the tibia and first metatarsal bone, thus producing a well-sh aped foot; but he was bound to admit that the patient herself preferred the other foot, which was originally equally deformed, and had not been operated on. The pathology of this deformity was most complex.

Traumatic Gangrene.

Mr Robert Jones, of Liverpool, read a paper on a case of acute spreading traumatic gangrene, treated by amputation and swabbing with pure liquefied carbolic acid. The patient was thirty two years of age, and had a compound fracture of the forearm. The gangrene spread rapidly, and at the time of amputation at the shoulder-joint there was swelling and crackling over the pectoral region and above the acromion. The soft parts cut through were dark, and congested, and gaseous. There were practically no flaps. The wound and intermuscular spaces were freely swabbed with carbolic acid, and this was repeated at subsequent dressings. Recovery followed, hiccough night and day being the most distressing symptom.

Mr. Jordan Lloyd had a somewhat similar experience in two cases, aged thirteen and fourteen. After amputation he plugged the wounds with lint soaked in 1 to 1,000 sublimate solution and made some sixty-inch or half-inch incisions into the bronzed and brawny tissues above. Both patients did well.

Esophageal Stricture.

Mr. Kendall Franks described a case of dysphagia from a stricture of the esophagus just below the cricoid cartilage. At the operation (esophagotomy) it proved to be due to a smooth double fold of mucous membrane completely closing the lumen, except for a slit-like aperture (imperceptible from above) a quarter of an inch long. He excised the diaphragm and sutured the edges of the mucous membrane remaining. The external wound was closed around an esophagus tube. The patient recovered. Such cases were rare, only nine were recorded since the seventeenth century. The pathology was obscure. The general opinion was that they were congenital, but in this case the patient (aged forty six) had only had symptoms for three years. Could it be the result of prolonged spasm of the muscularis mucosæ and circular fibers? Mr. Franks also showed a drawing of a case of development of external piles into fibroid tumors after an operation for internal piles.

Third Day, Friday, August 3.

Ovariotomy.

Mr. Mayo Robson read a paper "On a Consecutive

Series of Ovariotomies performed in the Surgical Clinic at a General Hospital." He brought forward the details of 216 consecutive cases, without any selection, as evidence that the claim of obstetricians to have the monopoly of such cases was unfounded. General surgeons were the best fitted to succeed; they were prepared to deal with any complication that might arise. He had done 850 abdominal sections with a mortality of twelve per cent, including cases of suppurative peritonitis and one desperate case. Most of his experience was in the wards of a general hospital.

Of the 216 cases, 14 died. Of these two were cases of malignant disease, in two there was intestinal obstruction, one was admitted with peritonitis, in one a fecal fistula existed and the patient died eight weeks after the operation, one had a suppurating cyst, one died of bronchitis, caused possibly by ether (on this point he held strong opinions), one from heart disease, one was due to hemorrhage from slipping of ligature on pedicle of a sessile tumor caused by vomiting; one death was traceable to a collection of sewage under the ward. The mortality was six and a half per cent.

The risk of sepsis was put forward by obstetric physicians as an argument against the performance of ovariotomy by surgeons who were frequently dealing with septic wounds, etc.; but he submitted that the obstetrician who might have been attending cases of puerperal fever, and whose fingers were frequently in contact with vaginal and other secretions was more likely to convey infection. He thought further that for these reasons obstetricians ought to leave ovariotomy to surgeons. As to diagnosis, the surgeon who was familiar with various non gynecological diseases of the abdomen was more likely to be accurate than the specialist. He was strongly in favor of the maintenance of the distinction between the physician and the surgeon. He emphatically protested against the pretensions of the obstetricians. If there was to be any specialty let it be that of abdominal surgery. If a surgeon is fit to operate on the kidney and the intestinal tract, surely he was fit to operate on the female organs of generation.

Mr. Ward Cousins warmly congratulated Mr. Robson on his cases. He thought that he scarcely did himself justice, however, by including so many complicated cases.

Mr. Nelson Dobson said that in Bristol ovarian tumors were operated on as a rule in the general wards, with results as good as those in special wards elsewhere. He had seen a case in which ovariotomy was undertaken by an obstetric physician, which proved to be one of tumor of the kidney; the mistake was entirely pardonable, but it involved the performance of an operation quite outside the operator's experience, and one he would not have undertaken had the condition been diagnosed.

Mr. Robson, in reply, said that he could fairly have separated his cases as Mr. Cousins has suggested, but he wished to give a table that could not possibly be cavilled at. If so arranged, his mortality would be only one and one half per cent. Uncomplicated cases were very rare in his experience, there were nearly always adhesions or other complications, such as twisted pedicle, which always gave rise to peritonitis. He used a temporary ligature before beginning to remove the cyst, when it was possible—thus lessening the bleeding in dividing adhesions. He could not agree with one speaker, who claimed that gynecology was all surgery and should be the surgeon's province. Many cases were medical, such as those of slight disease of the uterine appendages, which were best treated by medical means, such as rest, and it was most unjustifiable to operate on all these, for, apart from any risk of operation, it was certainly a disadvantage to a woman to lose her ovaries.

The President traced the origin of the pretensions of obstetricians from the days no operations were done on the abdominal cavity, and the treatment of ovarian tumor was medical. He protested against women's hospitals, officered by men in general practice, who had had no surgical training since their student days, and were not fit to suddenly plunge into capital operations any more than he (Mr. Banks) was to turn a fetus in utero. He adverted to the recent inquiry at a women's hospital in London, which had involved the resignation of the staff.

Papers were also read by Mr. J. Hutchinson, Jr., on "Injuries of the Elbow-Joint," and by Mr. Mansell Moullin on "Treatment of Enlargement of the Prostate by Removal of the Testes."

The passing of a cordial vote of thanks to the President, moved by Mr. Ward Cousins, closed the proceedings.

SECTION ON MEDICINE.

FIRST DAY, WEDNESDAY, AUGUST 1.

Dr. F. T. Roberts, as President of this Section, opened it with a few remarks, in which he urged the necessity of broad views in medicine, deprecated the tendency to specialize, hoped this Section would always maintain its position, and expressed his pride in being asked to preside over it this year.

Functional Diseases of the Heart.

Dr. Douglas Powell said that though the term functional had been objected to, he rather favored it as useful to designate disorders which were independent of recognizable change of structure. In the case of the heart, the commonest causes of such changes were nervous strain, shock, acute specific diseases, and such like. The result is some impairment of the cardiac mechanism, when the pulse is affected in its frequency, tension, or rhythm. He deprecated the term tachycardia. Many of the cases so termed resembled angina pectoris. Others were more like Grave's disease. Pulse tension was most important, and the recurrent pulse often found with high tension ought to be carefully distinguished. Abnormal slowness, the so-called "bradycardia," is found as a sequel of typhoid and influenza, and sudden

changes from frequency to infrequency, or a normal rate with alteration to either, have been found. Subjective symptoms are usually well marked, the patients being often troubled with a consciousness of such symptoms as irregularity or intermittence. As to treatment, the causes of mental or physical over-strain must be removed. Then iron and arsenic are useful, and sometimes trinitrine may be called for. Dr. Powell illustrated his paper by the following tabular statement:

I.

	Cardiac Vascular Hyperesthesia.	Source of Altered Innervation.	Exciting Cause.	Method.	Rhythm.
1	Undue perception of heart's action, normal or altered.	Central hereditary neurosis.	Mental shock, nervous exhaustion.	Variable degree of arterial tension.	Variable varicose tension
2.	Oppressed heart's action with raised arterial resistance.	Central.	Mental strain, nicotine constipation, uric acid, uremia.	Regular, with arhythmic interludes.	Do.
3.	Angina pectoris. *a*, Vena; *b*, Vera.	Cardiac plexus.	Mental emotion, peripheral excitement, visceral.	V. M. excit. causing secondary cardiac embarrassment.	Slow, labor'd quick.

II.

	Heart's Action Accelerated.	Source of Altered Innervation.	Exciting Cause.	Method.	Rhythm.
1.	Paroxysmal palpitation under mental excitement.	Central.	Intense volition in emergencies.	*a*, Shock; *b*, reaction; *c*, cardiac pressure; *d*, visceral relaxation.	Regular.
2.	Paroxysmal palpitation from indirect vagus excitement.	Central.	Vagus inhibition.		Irregular.
3.	Paroxysmal palpitation from direct vagus excitement.	Visceral irritation, strain, pericarditis, endocraditis nerve strain hot bath, mental shock.	Anemia.		Irregular.
4.	V. M. relaxation.				Variable.
5.	Sustained hurry of heart.				Regular.

Dr. P. M. Chapman could not agree that all causes of functional derangements of the heart are of nervous origin, as irritability of muscle undoubtedly has a disturbing influence, and also fatty degeneration. Slowing of the pulse may be due to irritation of the vagus, and the best remedy is faradization of the vagus. Grave's disease is often looked upon as incurable, but he does not think so, as he has met with instances of complete cure. The manometer is indispensable to accurate diagnosis.

Dr. James A. Lindsay was of opinion that the symptoms of organic and functional heart derangements are often identical, but after excitement are more intense in the former than in the latter. The condition of the cavity walls affords conclusive evidence.

Dr. Ernest Sansom objected to the term "functional" and instanced amaurosis, which he defined as a disease in which the patient saw nothing and the doctor saw nothing. Similarly, in so-called functional derangements of the heart, the patient often felt a great deal and the doctor could find nothing wrong. Acute pain might be present and yet the heart show no sign of disease or even trouble. "Fatty degeneration" of the heart was a huge bugbear; but people do not die of it suddenly; in his opinion it was more frequently associated with pernicious progressive anemia than anything else.

Dr G. A. Gibson had met with cases of cardiac affection where the pain was localized in the hands or the wrists, or in the forearms, and believed these pains to be due to some profound change in the heart itself, often proceeding from dilatation, and this was frequently referred to as proceeding from nervous disturbances.

Dr. Shingleton Smith said there was no test for cardiac neuritis, and functional could not be separated from organic disturbances; they were thoroughly mixed in such diseases as goitre, anemia, and perhaps in phthisis. However, the difficulty of diagnosis should not be allowed to cause hesitation on the part of the medical man. He found nitrate of amyl act admirably in modifying the symptoms in cases of functional derangement.

Dr. Watson Williams found cactus grandiflorus a specific in these cases; and observed that even in health the arterial tension was subject to variations.

Dr. Harry Campbell agreed generally with Dr. Powell, but believes functional cardiac derangements to be the outcome of nervous disturbance, the result, as often as not, of heredity. Heart attacks often simulated epilepsy.

Dr. Mandford believed that many cases of functional derangement were due to vascular tension, and the effects of mental emotion were often identical with those due to fatty degeneration. In such cases mental, as contrasted with bodily, rest was of immense importance, and gave instances. Believed that even moderate doses of alcohol had the most mischievous effects.

Dr. Tyson said the slow heart of advanced age was due to organic lesions, and instanced the case of an old gentleman who always had what was supposed to be an epileptic fit when the pulse fell to 22. Attacks of "slow heart" were apt to come on in the night in elderly people who had partaken freely of supper, and were due to pressure by a loaded organ and the recumbent position. He advised food to be taken in the early rather than a later part of the evening, a recommendation that was received with much applause.

Dr. James Barr said that the cardiac irregularities were evidenced by variations in the pulse, and that the right side was stronger than the left. He had seen the right auricle contract for four hours after the rest of the heart had ceased to beat. It was the stimulation of the blood that excited the action of the heart, and as the right side was the first to receive the vital fluid it was the first to suffer from overwork.

Dr. Rattray related his experience with the one word paraldehyde, which satisfied both the patient and the doctor.

Dr. F. T. Roberts, in summing up, said that he believed in purely functional derangements of the heart, and they caused much suffering when there was nothing wrong organically; he had frequently experienced it in persons, also in students coming up for examination. Tobacco was a fertile source of functional cardiac disturbance, and so was alcohol. Many doctors were quite sasisfied when they detected a bruit, but he did not believe that an apical murmur signified much. He believed also that application of lanolin to the apical cardiac region would be vastly more beneficial than drugs in such cases.

Dr. Powell replied, and alluded to the incompressible pulse, which he did not deny; he thought that cardiac pain was an erroneous expression, as the heart itself felt no pain. He expressed his great satisfaction that the discussion on the functional diseases of the heart, which he had had the honor to open, had been characterized by so much interest on the part of those who had participated in it.

SECOND DAY, THURSDAY, AUGUST 2.

PYREXIA AND ITS TREATMENT.

Dr Hale White opened the discussion, giving an able resume of all that is at present known of pyrexia and the various means resorted to to combat it.

Dr. Douglas Powell had seen in influenza a subnormal temperature quickly followed by a relapse, and this because the fall was due to nervous influences. Pyrexia, he thought, was as normal a feature of disease as the ordinary temperature of the body was of health, and he had thought he had seen harm result from lowering it below the standard of the disease.

Dr. Garrett-Anderson considered that temperature was comparatively unimportant, and instanced the case of relapsing fever. The temperature of children runs up very easily; also in the case of women, where there is more nervous susceptibility than in the case of men. The temperature of a child might run up to 101° F. and above it, without portending anything serious; the human body was not rigidly bound down to a temperature of 98.4° F. Then there was the high temperature of anemia. Had known good results follow the raising of the head of the bed, and from the use of the Swiss bath.

Dr. Osler, of Baltimore, mentioned the high temperature of chorea, which was due to the increased muscular action, the more violent the muscular contractions, the higher the temperature, which he had known rise to 106° and 107°. Cases that present a low temperature at first may often rise to an abnormal height. Systematic cold bathing in typhoid fever was as much on account of the toxemia that existed as on account of the pyrexia; was surprised this plan of treating pyrexia had not found greater favor than it had in the English-speaking communities of the world. The hydro-therapeutic system of combating disease had certainly decreased the mortality. Did not believe that the use of the cold bath diminished the tendency to relapse.

Dr. S. Smith thought it was strange that after twenty five years of trial it should still be necessary to discuss the question of the cold bath in the treatment of pyrexia; but the introduction into practice of various antipyretic medicaments has done away with its necessity, though there were cases in which nothing else would serve. He thought the bath might be dispensed with where the fever could be kept under by the use of antipyretics. He had never known any harm to result from administering a moderate dose of antipyrin every hour, and if this could be done the patient should not be subjected to the inconvenience and shock of being plunged into a cold bath; but where drugs failed the bath was necessary.

Dr. M. Skerritt rather liked the bath, and preferred quinine to any other of the antipyretic class of drugs, but in large doses, say from thirty to forty grains for an adult. The tendency to relapse was less frequent after the use of quinine than after the administration of drugs the action of which was more rapid. As long as there was breath in the body it was not too late to administer the cold bath; he instanced the case of a man who was actually moribund and recovered from typhus fever after being placed in a bath of cold water. Had also found it useful in cases of rheumatic fever.

Dr. Pope queried whether a high temperature was not an advantage to the subject of bacterial invasion, otherwise why should it have been perpetuated? The production of heat was due to increase of the heart's action, and antipyretics act by reducing that action. Found the injection of cold water into the rectum of great benefit.

Dr. Tyson did not consider moving a patient, even when excessive pyrexia was present, to be injurious; far more harm was likely to result if the temperature had fallen below the normal. The high temperature so often met with in children readily disappeared after the administration of an aperient. He deprecated the practice of permitting young children to paddle in the sea, and believed it often was the case of their temperature rising to an alarming height.

Sir T. Grainger Stewart thought no medical practitioner could be adverse to the cold bath; much depression followed the use of drugs. What was the best temperature for the antipyretic bath? 65° to 70° F. he found distressed patients, and would not advocate it except in severe cases; cold or tepid sponging was to be preferred, or the rapid changing of ice-cloth placed on the abdomen. The ice pack, too, was of use. When he

had recourse to the bath he used it warm, and gradually cooled it by the addition of cold water until the desired effect was produced; it was thus a less shock to the system than plunging the body at once into cold water. In rheumatism he had not found it so useful as in fever but in pneumonia he had seen good results follow its use. He thought it very likely that climatic influences had a great deal to do with those varying results.

Dr. Osler thought the bath of primary importance, it had been carried out successfully at Montreal and Brisbane and all intermediate points. It was disagreeable to the patient and the doctor, and if a better plan could be devised he would abandon it, but as he saved many lives by its use he would continue to have recourse to it if it were to cause as much more inconvenience and trouble than it did; his only object was to save life.

Dr. Herbert Snow was suprised that no one should have mentioned a well known antipyretic formerly much in vogue, namely, calomel; it acted, he thought, in a twofold manner, aperiently and antiseptically, by its conversion into bichloride of mercury.

Dr. W. G. Kemp applied heat in the form of hot bottles to the feet when depression followed the administration of a cold bath. The lecturer had spoken of daily baths. He advocated one every four hours. The danger of moving the patient was readily obviated by attention. He thought doctors lost a great deal by not using aconite more freely, and recommended that the most prominent symptom should be first attacked, it was the disease. When antipyretics failed to produce their effect there was something beyond pyrexia in the background.

Dr. Heath favored antipyrin, had a case of pneumonia with a temperature of 106.1° in a lad of thirteen years, gave forty grains of antipyrin in ten-grain doses every hour, and saved the boy, his own son. Had found much advantage from the administration of creosote in the pyrexia and night sweats of phthisis. The sucking of ice was useful and agreeable to the patient, but cold baths were not applicable in private practice. He believed that the man who ordered them would soon find himself without any patients. He believed that the type of all diseases was much lower to-day than a few years ago.

Dr. Garrett-Anderson said that the relation of idiosyncracy to pyrexia was too often overlooked.

Dr. Mahomed had no faith in antipyrin, he believed it killed a relative of his; has faith in quinine and ice-pack.

Dr. Bently practiced for fifteen years in the tropics, and gave quinine in malarial fever in combination with sulphate of magnesia. Alone, he found it had no effect. He found ice and packing of great use in cholera, even when there was collapse. In cases of influenza he used antipyrin and salycin combined.

Dr. Roberts, in summing up, thought pyrexia was often due to unsuspected nerve lesions, and that removal could be effected with advantage in most cases except those of typhoid fever. He believed the possession of a clinical thermometer was not an unmixed blessing—to the doctors, yes; to the patient and the patient's friends, no.

Dr. Hale White, in replying, said he would gladly take away every clinical thermometer from the patients and their friends, who were often needlessly alarmed by its readings; ten minutes was long enough to keep a patient in the bath; a lowering of the temperature was not necessarily a sign of improvement.

Third Day, Friday, August 3.

The Section met earlier and for a shorter time this day and not so many were in attendance, and of these some were anxious to get away by an early train, and others to attend the concluding general meeting where the address in Public Medicine was to be given.

Ataxia.

Dr. Ormerod opened the discussion on this subject. He remarked that swaying about of the body when the eyes were closed was an indication of the existence of this disease; curious to say, a blind ataxic was affected in the same way when the eyes were shut. Ataxia was a symptom of disease in various parts of the body, but especially of cerebellar lesions, and less so of the cerebral hemispheres, the staggering was due to paralysis of the muscles of the back and legs. Disease of the corpora quadrigemina gave rise to a rolling gait. Disease of the spinal cord was not limited to any set of transverse fibres, but was most common where disease of the posterior part of column existed; it was a late symptom of locomotor ataxy. Motor weakness may exist in conjunction with ataxia. Toxic influences, especially alcoholic, set up ataxia, also follow rheumatism and gout. Ataxia runs in families and is ranked with tabes, but he thought wrongly. Hereditary ataxia is of the cerebellar type, begins in the legs and works up. Friedreich's disease is hereditary affection of spinal cord.

Dr. Roberts said he did not know much about ataxia, except, perhaps, as a subject for examination.

Dr. Andriezen, of India, said forms of ataxia were due to alcoholism and to insanity, with a rapid breaking down of the brain tissue; also to tabes which involved the nerve cells in posterior tract.

Dr. Waldo thought it was a symptom of brain, spinal cords, and peripheral nerve lesions, as well as of functional disturbances, as in hysteria. Walking backward was the surest test for ataxia.

Dr. Gordon thought Dr. Ormerod's classification was pathological, and that a good clinical one was still a desideratum. The muscles were less paralyzed than not acting in unison, not backing each other up properly. In chorea the attempt at voluntary movement provoked involuntary movements of other muscles. Some thought it was a functional disease, but there was always hyperemia, which had been said only to exist in cases that went on to a fatal termination.

Dr. Dawson Williams said that ataxia might follow

any of the acute diseases, even malaria. This association of ataxia with acute diseases lent support to the syphilitic theory of tabes.

Hereditary Ataxia.

Dr. Mitchell Clarke presented a patient, 21 years of age, suffering from Friedreich's disease. The following was the family history: Father's father died at 83 years of age, he was healthy; cause of death being old age. Father's mother died aged 76, apoplexy. Father's one brother committed suicide. Father's one sister died of heart disease. Mother's father living, aged 72, healthy. Mother's mother died of heart disease. Mother's one brother healthy. Mother's two sisters died of diabetes within a few months of each other. Patient has one brother, aged 17, affected in same way; one sister, aged 14, strong and well. Three other children were still born, but no further evidence of syphilis in parents could be obtained. Patient himself has never had any bad illness. No other case in family; no cousins affected with nervous disease. From the age of 8 till 13 he was continually frightened by his parents' quarreling. In both brothers symptoms are similar. The first symptoms noticed were the difficulty in standing and walking, especially in the dark, the peculiar gait and inco-ordination of movements. Onset about five years ago; probably early symptoms not noticed; in brother first came on about the age of twelve. Course slowly progressive, especially as to muscular power, but remissions occur.

A second case was that of a pale, pasty-faced man 35 years of age, fairly well nourished. He had lost the greater part of his hair. He never had any severe illness; has had gonorrhea, but not syphilis. He never had fits, or any loss of consciousness. He is said, when aged 5 years, to have looked "silly"—that is, he could not stand still, rocked to and fro when standing, and kept his mouth open; he had frequent falls, and appeared to throw himself about when walking. He worked as an errand-boy till the age of 20, when he had to leave off on account of falling frequently and dropping the things he carried. Since then he had been unable to work in consequence of growing clumsiness and weakness, the latter gradually increasing so much that he has become unable to stand without support.

The father of the patient, a butcher, suffered from heart disease and dropsy, and died in an asylum, apparently of melancholia. His parents died of old age, his father living to be 96; one of his sisters committed suicide; family healthy. The mother is still living. Her father's father died at the age of 99, and her mother at the age of 101. Her father lost all his hair before he was 30 years old, and died of diabetes; her mother died at the climacteric period. There were two other sons and another daughter, all of whom survive. They had fourteen children: 1, Georgina, aged 37, healthy; 2, Albert, aged 35, (one of the patients); 3, George (drowned); 4, Isaac (died of croup); 5, a son, aged 25 (examined and found healthy); 6, William, and 7, Mary Ann (both died at the age of 5 months, of "weakness"); 8, Lizzie, aged 21 (examined and found healthy); 9, a daughter (died at the age of 1 month, overlaid); 10, Caroline, aged 18 (one of the patients); 11, Isaac (died at the age of 3 years, of croup); 12, John, aged 14 (examined and found healthy); 13, Isaac, aged eleven (one of the patients); 14, a child prematurely born at 7 months (died in three days). The father was a heavy drinker; no evidence of syphilis could be obtained. The mother is a strong healthy woman, and does hard work. Has never suffered from fits, from any nervous affection, or any severe illness. She was carefully examined as to state of reflexes, etc., and found to be normal in every respect.

Tabes Dorsalis.

Dr. Clarke then presented a third patient with locomotor ataxia.

Symptoms in 1892.—Chas. O——, aged 53; weight, 12 stone 21 pounds; has had syphilis. Illness began two years ago with lightning pains in legs, difficulty in walking, numbness and loss of power in hands, girdle-pain, and giddiness increased in the dark.

March 2, 1889.—Ataxy, both of legs and arms, by far most marked in the latter; there is considerable weakness of leg muscles, with uncertain and high-stepping gait; movements of hands show great ataxy; he can only button his coat with difficulty and most clumsily; knee-jerk present on the left side, just obtained on the right side. Right pupil does not react to light, left reacts only over one-third part of circumference on temporal side (no other sign of iritis). Paralysis of right external rectus; optic disks pale; both fields of vision irregularly contracted. Static ataxia and Romberg's symptom well marked. The metatarsal joint of right great toe is affected with a tabic arthropathy. Pains five years; difficulty in micturition two years. His state in February was as follows: No loss of sensation, gait extremely ataxic, inability to turn round and to stand with eyes shut and feet together; could not walk without a stick; myosis and inequality of pupils; Argyll-Robertson phenomena; loss of sexual power, knee-jerks absent, gastric and laryngeal crises; rectal pains, and lightning pains in legs of great severity nearly every day.

Dr. Ormerod, in reply, said he was glad those who had taken part in the discussion had in the main agreed with him.

Dr. Roberts said that brought the meetings of the Section to a close. He thanked all for their good behavior, and said further that what he had looked forward to with dread had proved a pleasure.

[to be continued.]

Cincinnati Obstetrical Society.

Stated meeting June 14, 1894. The President, T. P. White, M.D., in the chair. E. S. McKee, Secretary.

Case Report.

Dr. C. D. Palmer.—I will report to night a condition which has happened to me several times, twice in the most marked manner, within the last six or seven years. We all recognize that erosion, granular degeneration, eversion, enlargement and thickening of the cervix uteri, with cystic degeneration, are by no means uncommon. We see them very often indeed. Those conditions almost invariably are engrafted upon or follow a laceration of the cervix. This is true to such an extent that I have placed myself in a rather unpleasant position on one or two occasions by announcing that a certain party must have given birth to a child. By conditions of the cervix alone we can say unmistakably that parturition has taken place.

But what I want to refer to to-night is not that, but the presence of erosion and degeneration, with marked enlargement, thickening and hardening, as present in the virgin. Some six or seven years ago I operated upon a virgin in this city, in good circumstances, and I think Dr. Zinke was present at the time. The conditions mentioned were present, and I performed Emmett's trachelo-plastic operation. I made it very much as I would for laceration of the cervix, taking out some of the hyperplastic tissue from the everted tissue. This girl became well. I never had a bit of doubt about her virtue. Recently I performed the same operation upon another virgin, after topical treatment had failed. I simply excised two wedge shaped sections from the anterior and posterior lips with Skene's scissors, which I think very good scissors for some purposes. They make a symmetrically formed excision, better than do the ordinary scissors. After removing the pieces the two surfaces were brought together with silver wire sutures.

I would like to ask if any person present has ever seen these conditions in the virgin, from chronic cervical endometritis, where you would not suspect laceration from parturition.

Dr. G. E. Jones.—I had a case five years ago, in St. Mary's Hospital, of a young girl, sixteen years of age, and when the examination was made in that case it looked as the doctor has described. I questioned the girl very closely, but she denied everything pertaining to the possibility of pregnancy. I treated her for some three months, and had the satisfaction of seeing her return to a perfectly natural condition. There was a great deal of hardness at the time, from induration, but there was none of the cicatricial tissue the doctor speaks of. There was the ordinary discharge and the eversion of the lips. It looked like one of those cases in which we would be justified in making the operation, but under treatment it returned to a perfectly natural condition.

Dr. A. W. Johnstone.—I only heard the latter part of the report, but the case seems to be very much like one mentioned by Emmett, in one of his earlier writings, the first edition of the book. A young girl came to him, whom he had known all her life; she was a daughter of a neighbor just across the street. Upon putting her upon the examining table he found that the cervix was all everted, and presented all the symptoms of ectropium. He made up his mind the woman was not a true virgin, and he was going to discharge her, but when he finished the examination she asked him the result of it so innocently that he had not the heart to discharge her. He treated her with hot douches, and with the return of circulation in the broad ligament the ectropium was everted, and the whole thing disappeared. So anything interfering with the return of the blood there is likely to cause an ectropium; it is a thing I have treated several times in young girls.

It has been my fortune in late years to have a number of girls under eighteen years of age for treatment, and I have never had to resort to resection of anything but the endometrium. I never treat them with more than one or two applications after correction. It is by no means rare to find the cervix thickened and very flat, and they stretch very readily; an old cicatricial tissue in a multipara is very apt to be tough and hard to tear. A sub-evoluted uterus is easily stretched, and the same is true in young girls. The tissues are infiltrated with serum. In my experience the best way to get rid of it is by a thorough curetting and encouraging the flow for six days afterward. As soon as I find a case I put the patient to bed and curette with a bone gouge, and cut out the whole of the endometrium; but we should be very careful about the cervical endometrium, and be sure, after curetting above the internal os, to also give the rest a thorough curetting. I have ever found one that was not benefited very decidedly by this, and 95 per cent of them are cured. I have given up local treatment entirely, except in those cases where there is an older tear. You will sometimes find the infection is deep seated, and this is caused by the remaining of some glands; touch it up with a mixture of acid and glycerine, half and half, and they will disappear. The time is coming when we will have to give up office gynecology; the first laparotomies were often due directly to office gynecology.

Dr. Palmer.—I think Dr. Jones must have misunderstood me in reference to one point. I did not say there was any cicatricial tissue in either one of these cases. There was considerable hyperplastic formation, from a parenchymatous inflammation.

Ovariotomy and Nine Days' Treatment Without Morphine.

Dr. Edwin Ricketts.—The patient was a lady, forty-seven years of age, unmarried, who consulted me about two weeks ago. There was swelling of the lower extremities; the menstruation had ceased about two or three years ago, and, as the patient expressed it, there had been a tendency for it to return in the last six or eight months, although not regularly. She said she experienced no trouble during her menopause, and for three months the pain in the abdomen had been very severe, so much so that hypodermics of morphia had been used by the attending physician almost daily. I

made a very close examination. Everything was tense and firm; the tumors could not be rotated; I could not make out satisfactorily to myself fluctuation, and there had been some little fever along, so the physician told me. I must confess that I was at a loss to know what I was to deal with. I advised exploration, and nine days ago to-day the abdomen was opened and the tumor punctured, and delivered in a very short time. I found peritonitis over the entire anterior surface of this tu mor, and adhesions, which readily broke up after introduction of the hand. I was very glad to have the case turn out as it did. Whether the specimen is papillomatous or not, I will not say. She has not had a bit of morphia since the operation, although she had used it almost daily for several months. The contents of the sac were very dark; the tumor was not rotated, the pedicle was rather short, but there was not experienced much difficulty in the application of the ligature. It has been my rule to get along in these cases without morphia if possible, and in this case the patient began to eat on the third or fourth day. The conduct of the case has been all that I could desire. I was unfortun ate enough to have some of the contents escape too in the abdomen, and there was peritonitis present, and for the latter reason I washed out the cavity. The patient was a very sensible lady, and, while she took morphia for pain almost daily for some time, yet she had will power enough left to get along without it.

ABSTRACTS

MEDICINE.

A New Method for the Treatment of Tuberculosis Pulmonalis.—Following a preliminary communication upon this subject (*Cent. f. Bakter. u. Parasitenk.*) Carasso, of Genoa, now gives full particulars of his method of treating tuberculosis pulmonalis.

He first reviews the work that has been done with tuberculin, and demonstrates its unsatisfactory therapeutic application. The clinical results of the creasote, guaiacol, and benzo guaiacol treatments are reviewed, and while the author admits their successful application in cases of beginning consumptton, he regards them as unreliable, and powerless in advanced cases of the disease. The experiments with the toxines, blood serum, and thyroid implantation are dismissed with a few words.

The author refers to the numerous unsuccessful attempts at inhalation treatment. Among the agents employed in inhalation therapeutics, Carasso discards carbolic acid, creasote, and the various gases, on account of their irritant and uncontrollable actions; and finally directs attention to the ethereal oils, as the most desirable drugs for this method of treatment. The investigations of Chamberland, Champonniere and Koch have proven that many of the essential oils possess decided germicidal properties. Koch, for instance, has shown that the essence of peppermint (menthæ piperita) prevents the development of the anthrax bacillus in dilutions of 10 parts to 800; and that the vapor of the oil was fatal to the bacilli and spores of anthrax.

In 1888 Braddon reported the results of his clinical application of peppermint inhalations, and Kersch gave his experience with inhalations of various ethereal oils. These reports induced Carasso to begin his experiments with these remedies.

The author believes that mentha exerts a direct bactericidal action upon the bacilli in the respiratory tract, and that, by absorption into the circulation, it acts as a general disinfectant. Creasote acts beneficially in pulmonary tuberculosis by increasing the appetite and favoring nutrition. It also possesses some action on the secondary inflammatory exudates, favoring their absorption.

Carasso's method of treatment is, in detail, as follows: A piece of linen cloth, ten centimeters square, is folded to make a pad, five centimeters by two centimeters. By means of tapes this pad is secured in contact with nostrils. The tapes may be tied around the head, about the ears, or to the frames of a pair of spectacles. The pad is to be worn day and night, and only to be removed at meal times. In the case of patients without door occupations, who object to wearing this inhaler for cosmetic reasons, a quill toothpick, or a cigarette-holder may be stuffed with cotton and, after saturation with the mint essence may be used as mouth inhalers. The inhaling pad is to be moistened with five or six drops of peppermint essence, four or five times a day. The nostrils are to be greased with vaselin for the first few days to prevent irritation. The patient is instructed to take eight or ten deep inspirations with closed mouth; retaining the air as long as possible. After ten to fifteen minutes' rest, this procedure is repeated, and so on through the day. In case difficulty is experienced in keeping the pads in position at night, the bed pillow may be impregnated with ten or fifteen drops of the mint essence.

The following mixture is given internally:

Creosote, pure (beechwood) .	8.0.
Alcohol	550.0.
Glycerin	250.0.
Chloroform	20.0.
Essentiæ menthæ . . .	8.0.

A teaspoonful every three hours, in a half-glassful of water.

In certain cases the mixture may be further diluted with sweetened water, or the dose may be reduced. The nutrition is favored by the method of over-feeding. Two or three liters of sterilized or boiled milk are given daily; together with plenty of meat, cooked to taste; and with the addition of 400 or 500 grams of good wine.

All hygienic precautions are to be observed. The patients are instructed to carefully disinfect their expectoration, thus preventing reinfection.

The remarkable feature of Carasso's communication is the clinical report of the cases subjected to this treatment. In all cases the physical diagnosis was confirmed by finding the tubercle bacilli in the sputum. A careful weekly record was kept of each case, involving a complete physical examination. Many of the cases were well advanced in the disease, though no record is made of cases in which the lung destruction had advanced to the formation of cavities, recognizable by physical examination.

In all, forty four cases are recorded. Of these there were six deaths, and thirty-eight recoveries. Of the fatal cases, five were subjected to autopsy, and four exhibited either general miliary tuberculosis, or intestinal and peritoneal tuberculosis, along with the lung disease. In one fatal case, the patient after once having the disease subdued, returned to her poor surroundings, and suffered a fatal relapse without again submitting to treatment. In another case of well advanced phthisis the patient died of capillary bronchitis soon after the beginning of the treatment.

From his record it appears that every case of primary pulmonary tuberculosis, treated by the inhalation method of Carasso's recovered; and that the fatal cases, with two exceptions, were ones in which secondary tubercular lesions produced death. The average duration of the treatment in these cases was sixty days.

The regularity of the improvement in these recorded cases is striking. The fever, cough and night sweats rapidly diminished and ultimately disappeared. The bacilli in the sputum began to diminish in ten days, and all disappeared in sixty days; while the expectoration became first mucoid and finally ceased. The weakness, loss of appetite, and emaciation rapidly improved; the recovery in all the recorded cases seems to have been permanent.

The simplicity and harmlessness of this treatment of Carasso, together with the remarkably successful outcome of his cases, recommends the method for a thorough and systematic clinical test.—A. P. Ohlmacher in *Journal of the American Medical Association.*

SURGERY.

Cancer of the Rectum and Its Treatment by Excision.—Thomas Jones, F.R.C.S. (*Med. Chron.* N. S.). In cancer of the rectum, as in cancerous affections generally, it is of the utmost importance that the condition should be recognized before the disease has made much progress.

The only hope of ridding the patient of the disease rests on an early diagnosis being made. Little good can be effected once the affection has involved tissues outside the wall of the gut.

The disease in its most common form is usually encountered at from some two or three inches from the anus, that is, within the reach of the finger, and the following have been the principal symptoms; pain is the most constant, although at first it is not prominent, except in small proportion of cases. Its situation varies; usually it is situated in the rectum, and is aggravated by defecation.

The passage of blood and mucus with the motions is a very common symptom; in more than a third of the cases constipation was very marked, and in one case it had been going on for years. When any or all of the foregoing symptoms are persistent, and suspicion points to disease in the rectum no time should be lost in making an examination.

The passage of blood from the rectum is a symptom which is liable to considerable variations; it is seldom altogether wanting; the history usually reveals the passage of a little blood after a hard stool, or the discharge of a blood stained mucus. It is a constant symptom, once ulceration has commenced. When the disease partakes of the character of an epitheliomatous ulcer with raised indurated margins, and an excavated surface, the bleeding may be very profuse. A spurious form of diarrhea alternating with constipation, and accompanied with tenesmus, is an early symptom in some of the cases. The necessity of a rectal examination in every case of persistent diarrhea must ever be in the mind of the surgeon.

When the new growth is nodular and very extensive, often almost encircling the gut, the passage of feces will be seriously interfered with, and obstruction may at any time arise. Glandular enlargement takes place late in cancer of the rectum—a fact of considerable importance having regard to the question of operation. The need for a digital examination of the rectum, whenever the symptoms suggest mischief in that region, must be insisted upon. The examination, which should be carried out with care and gentleness, is to elicit information on the following points: The character and extent of the disease, and the condition of the rectum as regards mobility upon the other pelvic structures. In this manner is to be settled the question as to whether the disease has traveled beyond the limits of the intestinal wall, and on this hangs the propriety of attempting to remove the disease by excision. It is also possible by digital examination to determine whether the lymphatic glands are enlarged or not; those in the hollow of the sacrum, when enlarged, may be made out through the wall of the rectum. Hilton mentions cases in which the glands were enlarged in chronic ulcerations other than those associated with rectal cancer. When the ulcers healed the enlargement of the lymphatic glands subsided, showing that it was due to simple irritation.

It is not always easy to distinguish between a malignant and a non malignant stricture of the rectum. The history of the case, together with the length of time over which the symptoms have extended, will lend substantial aid in forming a conclusion. Again, the pro-

gress of the simple stricture is usually very slow. And here the information gained by digital exploration will be of extreme value. The malignant stricture is neither so limited nor so regular as the simple form. The presence of hard nodular, unyielding, projecting masses is very characteristic of cancerous disease, which seldom extends less than several inches along the gut. The nodules may be limited to one side of the rectum, or involve the entire circumference; in the latter case seriously encroaching upon and producing a marked constriction in the lumen of the gut.

I have often verified the statement made by Cripps, that while in the malignant form of stricture there is very generally some healthy mucous membrane between the anus and the seat of disease, in the simple stricture this part is, as a rule, more or less diseased.

The operations recommended for rectal cancer are divisible into two classes:

1. Those that aim at the relief of urgent symptoms.
2. Those that have for their object complete removal of the diseased mass.

Among the former, colotomy, without doubt, offers the best prospects. It not only relieves the sense of weight and uneasiness in the part affected, and removes all chances of obstruction, but checks the progress of the disease, and places the patient in a state of compara tive comfort. Free scooping away of the diseased mass and linear proctotomy are methods of relief which have little to recommend them. Removal of the cancerous growth by the free use of a scoop or of the fingers may relieve the symptoms of obstruction, and should perhaps be adopted when other means are not available. And it appears, from the cases that are on record, that when the diseased mass is thoroughly broken up and taken away, the loss of blood has not by any means been conspicuous. Strange as it may sound, partial cicatrization has even taken place in such cases.

The radical cure of rectal cancer can only be effected by free excision from the perineum, and of late years this procedure has been revived with a fair prospect of success. If the operation is adopted indiscriminately in all cases, it is certain to fall into disfavor. The merits of each case, as it presents itself, must be carefully weighed, and only those cases operated upon in which there is a reasonable prospect of removing the whole of the disease. Before a final decision is arrived at the rectum must be explored while the patient is under the influence of an anesthetic, and attention directed to the following points: The extent of the disease and the state of the rectum in regard to mobility in the pelvic space. We must also have regard to the general condition of the patient with respect to strength and nutrition; his age; as to whether there is any evidence of the disease affecting parts outside and adjacent to the rectum; also, whether there are any symptoms to show secondary deposits in the liver or elsewhere.

The immediate risks of the operation do not appear to be great; the deaths have been placed as high as 16 per cent, but Czerny operated upon 25 cases with one death only as the direct consequence of the operation. As might be imagined, the cause of death in the large majority of cases has been pelvic cellulitis and peritonitis.

In most instances, the patient recovers sufficiently to enjoy life, and even to resume active work, and it is possible that the disease may not show itself locally, but return in some internal part where its ravages are less dreadful to witness. Besides this, the moral effect of total removal of the disease cannot be overestimated. The effect on the mind of the presence of a disease which it is impossible to remove is of the most depressing character; with its removal the patient may recover much of his wonted spirits and buoyancy.

With regard to the possibility of a complete cure, the statistics furnished by Cripps are very encouraging. In nine out of twenty-three cases the disease recurred after periods varying from four months to two years, but six remained well after intervals which varied from two to four years. In this, as in all operations for the removal of cancer, the need for an early diagnosis and prompt and efficient treatment must be constantly kept in view.

Cancer of the Tongue; Its Diagnosis and Treatment.—E. W. Stevens, M D. (*Phil. Polyclinic*). A large majority of cases of cancer of the tongue are preceded by an abnormal condition of its surface which has been described under various names. The term leucoma, first suggested by Jonathan Hutchinson, is the one usually employed. Besnier has suggested epithelial glossitis as a designation of this condition and this seems to indicate the nature of the condition best.

Leucoma is a chronic inflammation of the superficial mucous membrance of the tongue which becomes deprived of its natural covering of papillæ, and instead of its normal red color it becomes bluish-white.

The surface of the tongue becomes smooth and glazed, here and there marked by shallow furrows. The general appearance of leucoma is not unlike the effect produced by the application of nitrate of silver to the mucous membrane. This condition is never seen before 20 years of age. It may originate from syphilis, or from an irritant, and should always be regarded as a predisposing cause of cancer.

The first appearance of cancer may vary within very wide limits. It may commence as a fissure of ulcer, a pimple or tubercle, a wart of warty growth, more rarely as a lump or nodule in the substance of the tongue.

Any apparently simple lesion of the tongue which does not yield to treatment, after every source of irritation has been removed, should be excised at once even in the absence of definite signs of cancer. Delay until the disease is fully developed is fatal, and takes away all chance of eradication of the disease.

When fully developed, lingual cancer, while widely different in different cases, presents a striking clinical picture. The increasing ulceration and induration, the pain often referred to the ear or temple, the salivation, the fixation of the tongue from infiltration so that

it can no longer be protruded from the mouth, the enlargement of the lymphatic glands beneath the angle of the jaw, the gradually increasing difficulty of speech and swallowing, the not infrequent hemorrhages and the progressive exhaustion mark the onward march of the disease.

The diagnosis of the affection at an early stage is most important, but of far greater importance is the recognition of the precancerous stage. Curtis has lately shown that after operations for lingual cancer, in only 6.6 per cent of cases does the disease not recur within four years, and the proportion of cures after operation will always be comparatively few.

The diseases with which cancer of the tongue is most likely to be confounded are syphilitic lumps and ulcers, tuberculous ulcers, warty tumors, and simple ulcers and fissures.

Simple ulcers and fissures heal rapidly without treatment when the source of irritation is removed, or under the use of simple applications. Should they not do so, cancer should be suspected and they should be excised at once. There is one form of simple ulcer, the dyspeptic ulcer, which is not unfrequently met with, and which, while it improves under treatment, is prone to recur. It is superficial and without induration, usually multiple and appearing in successive crops. It is not likely to be mistaken for cancer.

The diagnosis between cancer and tuberculous ulcer of the tongue is often most difficult. It is probable that some of the more brilliant cases reported, when life has been prolonged for many years after removal of the tongue for cancer, were tubercular and not cancerous. The mistake cannot be regarded as serious, the best treatment for tubercular ulcer being excision, but the operation would probably be less extensive.

Secondary syphilitic affection of the tongue would probably seldom or never be mistaken for cancer, and in chancre the early glandular involvement and the development of the secondary symptoms will make clear the nature of the disease. The points of resemblance between cancer of the tongue and the lesions of tertiary syphilis, however, are so numerous and striking that it is sometimes impossible to distinguish between them, without the administration of antisyphilitic treatment, which in case of a shadow of doubt should always be employed.

Two weeks of antisyphilitic treatment will usually be sufficient for a diagnosis and should not be prolonged when improvement does not occur.

Finally there is only one method of treatment of lingual cancer: removal by surgical operation. Operation only effects a cure in a small number of cases, but it usually prolongs life and nearly always affords great relief. According to Barker, who has collected 218 cases of excision of the tongue for lingual cancer from the tables of Billroth, Whitehead, Rose, Kocher and others, the average duration of the disease in cases not operated on was 11.7 months and in those operated on 19 months, a gain of 7.3 months. The elaborate tables of Woelfler correspond very nearly with those of Barker. Treves' estimate that the immediate mortality following excision of the tongue is now about 10 per cent may be considered nearly correct. A definite standard of comparison of the results obtained by different operators is, however, unreliable and unsatisfactory owing to the great digerence in their views of the extent of the operation indicated.

The chief causes of death after operation are septic pneumonia, septicemia, shock and exhaustion.

NOTES AND ITEMS

Dr. James Moores Ball, Professor of Ophthalmology and Otology in the St. Louis College of Physicians and Surgeons, has opened an office at 810 Olive Street, in the Fagin Building. Dr. Ball is editor of the *Tri-State Medical Journal*, and is also the Secretary and founder of the Tri-State Medical Society. Formerly of Keokuk, Iowa.

Remarkable Fecundity.—An instance is related in the *Journal de Clinique et the Therapeutique Infantiles* (*Medical Record*), of a woman, forty-nine years old, who had given birth to twenty five children. She bad been married three times and had never had twins. Of the twenty-five children nineteen were boys, who had all died in childhood; the six girls had all lived, the youngest being five and the eldest twenty-eight years old. The woman had received a medal at the Sorbonne in recognition of her patriotic efforts to increase the population of France.

The Difference.—When a lawyer defends a man for his life, and by some technicality or shrewdness he gains his case that lawyer is often spoken of as "that man who saved my life." When a person is stricken down, we will say with strangulated hernia, just as sure death as hanging unless relieved, he sends for the physician, who understands this technicality of Nature, and relieves him, saves him not from the gallows, but death. He does not say "that physician saved my life," but "through the providence of God I escaped death."—*Charlotte Medical Journal.*

Meeting of Medical Publishers.—The first annual meeting of the American Medical Publishers' Association occurred at Hot Springs, Va., on August 13 and 14, 1894, and proved a most profitable and happy event, many of the members being accompanied by their ladies, who enjoyed the pretty scenery and lent a grace ful charm to the occasion. An overland trip to Warm Springs comprised a pleasant feature of the first day. After the transaction of the usual routine business, the President, Dr. Landon B. Edwards, read an able paper

on "Advertising and Advertising Agencies," which was well received and ordered printed. The reports of the Secretary and Treasurer were examined, and the finances of the Association found to be in good condition, Thirteen applications for membership were presented and acted upon favorably. The Secretary was instructed to investigate the laws of different states governing charters of incorporated bodies, and report to the next meeting. Dr. J. W. Clausen, of the *Times and Register*, Philadelphia, was elected to fill a vacancy in the Executive Committee. Upon motion it was decided that all annual meetings hereafter should be held just prior to the sessions of the Americal Medical Association, the next meeting being set for Monday, June 5, 1895, at 9 A.M., in the Utah House, Baltimore, Md.

CHARLES WOOD FASSETT, Secretary.

To Increase the Birth-Rate of France.—Stringent laws have recently been enacted by the French Government, which, despairing of obtaining any increase in the birth-rate of the land, is endeavoring to save the few children that are born. One of these reg ulations forbids, under a severe penalty, anyone to give infants under one year any form of solid food, unless such be ordered by a written prescription, signed by a legally qualified medical man. Other regulations are equally restricting, and, as the French have a knack of enforcing their enactments, down to the most trifling ones, as American visitors to Paris often find to their cost, it is probable that many childish lives will be saved. One could wish, on seeing an East-side tenement mother feeding her few months' old baby with a peach or banana bought from the curb fruit-stall, after half a day's exposure to the August sun, that the municipality of New York would copy a few of these French regulations. It would vastly lessen the work of the dispensaries and visiting tenement physicians.—*Med. Record.*

What We are Coming to in Scientific Surgery.—A clever writer who signs himself C. F. C. contributes to the Boston *Medical and Surgical Journal* an account of the proceedings that may be imagined to occur at a painfully scientific surgical clinic (New York *Med. Jour.*). A man presents himself with an ingrowing toe nail, whereupon the surgeon, after glancing at the toe, informs the students that formerly such a case would at once have been submitted to local treatment without further ado, and he admits that the prospect of obtaining a good result would have been fair. Now, however, he says, that we have learned the general interdependence of the different organs of the body, we feel that a thoroughly scientific treatment demands an examination of these different organs by specialists, in order that any conditions likely to be etiological factors in the case may be detected. Thereupon the patient is taken in charge by an attendant who conducts him to various rooms in succession and returns with the reports of the different specialists. The ophthalmologist reports that the patient is myopic, and adds: "As I recall a case where a similar visual defect was the cause of injury to the great toe in a person who 'stubbed' it against a curbstone, I have ordered appropriate lenses to correct the difficulty as a prophylactic against the occurrence of the disease. It is essential, however, that this treatment should be supplemented by wearing a loosely fitting shoe." The otologist reports that he found no defect of hearing, but says that, as the patient's trouble may have arisen from want of suitable support to the feet, he has thought it best to shorten the stapes leather two holes. The rhinologist puts the case down as one of "nasal tone ail." Wishing to bring about a radical change in the parts, he says, he has removed with the curette all adenoid growths, together with the adherent mucous membrane, from the cavities, and packed them all with aseptic gauze, which is to be removed if the patient wishes to sneeze. In the department of abdominal surgery the man was made the subject of a consultation by Dr. A., Dr. B. and Dr. C. Inasmuch as the history showed that the patient's mother had while living lost a set of false teeth, Dr. A., reasoning that tooth and nail are generally associated in action, is inclined to think the set may have been swallowed unconsciously and remained in the patient's stomach. Of course, he advises an operation. Dr. B., on the strength of Julius Cæsar's statement that "Gallia est omnis divisa in partes tres," suggests that one of them may have wandered down to the great toe, and advises an exploratory incision in the gall-bladder to ascertain if either part is missing. He further remarks that the "Gallic boot of love," cited by Dr. O. W. Holmes, seems to indicate a tendency of the gall to the foot. Dr. C. concurs in both these opinions, and on general principles he advises the removal of the appendix; but, inasmuch as the patient states that that has already been done, and that he has his appendix in a bottle at home, and is prepared to fetch it if required, it is deemed advisable to await further developments. The gynecologist reports that palpation reveals no abnormal condition of the uterus or its appendages, but, inasmuch as a medical student has called his attention to the facts that the patient wears trousers and has well-developed male generative organs, it is doubtful if the case is a proper one for his department. The gentleman in charge of the department of genito urinary diseases reports that the organs are apparently healthy, but suggests that it is not impossible that the patient may have passed a vesical calculus which has fallen upon the great toe and injured it. The report of the neurologist completes the examination. That gentleman finds that there is deficient innervation of the man's lower limbs. In particular, there are two well-marked areas of impaired sensibility and partial anesthesia located in the gluteal regions beneath the tuberosities of the ischia. As the history sent with the man made no mention of this, the neurologist had questioned him as to how long the condition had existed, but had received only unsatisfactory replies—merely to the effect that he had "sat so long upon those d——d hard benches

that his —— got numb." He recommends a rubber cushion with two holes, and that the case be kept under observation. After all this the surgeon announces that he is about to send the patient to the chiropodist around the corner, with instructions to have the toe cleansed and a piece of sheet lead inserted under the roughened edge of the nail. Advising the gentlemen of the class not to lose the opportunity of witnessing this procedure, he bids them good morning.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Laparotomy.

BY THOMAS C. GARRY, M.R.C.V.S.

June 26, 1894, 9 A.M. Called to see a bay carriage gelding with symptoms of colic. No great pain, simply uneasiness; gave usual treatment, enemas, etc. Explored per rectum; found nothing. Six P.M. Repeated the treatment, again explored the rectum; no result.

June 27. Eight o'clock, horse in more pain, breathing more heavily, membranes slightly congested. Again explored per rectum; found nothing.

Mid-day. On exploring again per rectum could now detect a calculus upon which I could get the tips of my fingers but could not move it. After repeated attempts, had the horse thrown and placed under chloroform, and the fore parts then elevated considerably by trusses of straw placed under them, but still unable to get the stone away. By this time there was some thickening of the mucous membrane of the bowel which made the difficulty of removal per rectum greater. Finding now the case was hopeless, I interviewed the owner, a doctor, and on explaining the case to him got permission to operate, and an offer of his assistance which was gladly accepted. We first cut the hair as short as possible over the left flank, then well washed the parts with soap and water, and then with hydrarg. perchlor, half-grain to an ounce. The instruments—scalpels, needles, forceps, director, etc.—all were immersed for some minutes in boiling water.

6:30 P.M. Having thrown the horse and administered chloroform, a vertical incision was made in the flank, and the skin, paniculus, fat, and fibers of the external oblique cut across. There was now some capillary hemorrhage and also from two veins, which latter had to be ligatured, and the capillary hemorrhage arrested by application of pledgets of cotton wool wrung out of hot water. The fibers then of the internal oblique were separated instead of using the knife, and having reached the peritoneum, again we halted to arrest any hemorrhage. This done we broke through the peritoneum; having made an incision large enough I placed my arm within the abdomen and readily found the calculus. Here good fortune awaited us, for I was able by manipulation to pass the calculus along the gut, and it was removed readily per rectum by my partner (Mr. Cheesman) so that no incision was made in the gut at all. So far good.

Suturing the peritoneum was then proceeded with. This presented a little difficulty owing to the depth of the wound, but a continuous suture was at length got in. Muscle was then sutured to muscle and skin to skin by interrupted sutures. The horse was then allowed to come out of chloroform.

About 10 P.M. he got up, and after standing for a little while walked with assistance into the stable. He drank freely and ate a little hay from the hand. The horse was now breathing heavily, pulse weak, membranes congested, temperature, 103. We administered brandy and eggs every half hour throughout the night, but about twelve hours after operating the horse expired from collapse.

Post-mortem examination revealed considerable inflammation of rectum, intestines generally congested, peritonitis to a limited extent just around the incision. Lungs and liver and kidneys much congested, fibrinous ante-mortem clot in the heart, three other calculi in large colon.

NOTES.

1. Operation evidently left too long. Had we discovered the calculus earlier and operated earlier there might have been some hope.

2. Considerable difficulty is experienced in operating at the flank, owing to the extent of muscular tissue and consequent depth of wound and difficulty in drainage; and also having to cut across at least one set of muscles, there is considerable capillary hemorrhage.

3. The vertical incision I think was wrong and would have been better obliquely made.

4. In cases where operation seems necessary and horse almost in a state of collapse, would it be practicable to make an artificial anus, as is done, I believe, in human colotomy, by making an incision through the linea alba, and stitching the cecum to the opening, and after adhesion had taken place owing to the inflammation set up, make an opening into the gut and allow the feces to come away, and so relieve the general congestion and ward off the threatened collapse. Then afterwards, say twenty-four hours, operate for the calculus. —*Veterinary Record.*

Abscess of Liver (Calf).

During the past summer I was asked to hold a post-mortem on bull-calf, six months old, which had died suddenly during the night without any premonitory symptoms. This animal was a highly bred Holstein, and was fed heavily on everything it would eat, with the object of forcing it along so that it might serve cows at an early age. Nothing appeared amiss the day before, and outwardly it would be said to be in the pink of condition. On opening the abdominal cavity a quantity of clear laudable pus showed itself on the abdominal walls, which was quickly traced to the liver, and the whole gland was a regular network of smaller abscesses, varying in size from a hazelnut to a walnut. It could hardly be conceived that an animal in this condition would appear so unusually healthy, but it was so; the coat shone like an otter. The cause I have no doubt was due to injudicious feeding, causing repeated attacks of congestion, and resulting abscesses. I do not think the liver, at least in young animals, to be a very sensitive organ. I have repeatedly, when spaying young bitches, nipped a piece off the liver with my finger nail or forceps, without causing the slightest ill effects, more than it would bleed rather freely, as the escape of a moderate quantity of blood into the abdominal cavity of young bitches does no harm.—James H. Frink, Government Veterinary Inspector.

FORMULÆ

Cholera Morbus.

℞ Bismuth. subnitrat., - - - - - - - ʒij.
Tinct. opii, - - - - - - - - - fʒj.
Aq. camphor., - - - - - - - - fʒiv.
M.
Sig. Tablespoonful four times a day.

Agalactia.

℞ Extr. pilocarp. fluid., - - - - - - ʒj.
Syrup. cort. aurant., - - - - - - fʒij.
M.
Sig. Tablespoonful three times a day.

Diphtheria.

℞ Sennine, - - - - - - - - - - ʒij.
Acid. lactic., - - - - - - - drops, xxx.
Aq. destill., - - - - - - - - - ʒvj.
M.
Sig. Apply with atomizer every hour or two as necessary.

℞ Sennine,
Potass. chlorat.. - - - - - - aa ʒj.
Aq. destill., - - - - - - - - fʒiv.
M.
Sig. Use as a gargle every two hours or inject teaspoonful warm in each nostril every two hours (nasal form).

Rudy's Pile Suppository

is guaranteed to cure Piles and Constipation, or money refunded. Fifty cents per box. Send two stamps for Circular and Free Sample to MARTIN RUDY, Registered Pharmacist, Lancaster, Pa. No Postals answered. For sale by all first-class druggists everywhere. Meyer Bro's Drug Co., Wholesale Agents, St. Louis, Mo.

HOME SEEKERS' EXCURSIONS.—On September 11th and 25th, and October 9th, the Burlington Route will sell excursion tickets to all points in the Northwest, West and Southwest, at one fare for the round trip, plus $2.00.

DIOS CHEMICAL CO., St. Louis, Mo.—

GENTLEMEN—I must admit that I was somewhat dubious concerning the claims made for Sennine by your representative, but I had occasion to use it in three emergency cases and with the happiest results,—notably so in one case, that of a woman well advanced in life, whom I was treating for an acute attack of erysipelas and who sustained a number of superficial jagged cuts as a result of a fall. The only dressing available and used was Sennine and to my surprise and delight the wounds healed quickly and without the slightest untoward manifestation.

C. C. YOUNG, M.D.

ALKALOIDAL MEDICATION.—A prominent physician of Des Moines, Iowa, writes to the Abbott Alkaloidal Co., Ravenswood, Chicago, as follows: "The order enclosed marks the end of one years' use of your Alkaloidal Granules, etc. Will say that your goods have been satisfactory in every way and I shall continue the use of the Dosimetric Method. My results are better and my collections much easier. My office business is cash and I can control my patients better. Formerly my prescriptions were given to suffering friends, now they come to me and pay for the time and medicine they receive."

This plain statement of fact carries its own moral with it. See their wonderfully generous introductory offer advertised on title page of this issue.

IN THE *New Idea* (published by Messrs. Frederick Stearns & Co., Detroit, Mich.) for June, 1882, mention was made of Kola, with a brief description of its physical characteristics, habitat and therapeutic action. In subsequent issues at different dates, the drug was more thoroughly described, Messrs Frederick Stearns & Co. soon after their first notice put on the market a fluid extract of the drug which contained all the active medicinal principles of the Kola nut itself. Kola in the form of fluid extract, though used to some extent, has never been popular, owing to its acrid bitter taste, which renders it unpalatable, therefore, in order to devise a more palatable preparation, a series of experiments were undertaken to prepare a compound which should contain, unimpaired, the medicinal properties of the Kola nut, yet free from its acrid bitter taste. That they were successful in their investigations is self-evident in their new product "Stearns' Kola Cordial," which, although a very recent production, is already meeting with prompt recognition by the medical profession. Stearns' Kola Cordial is one-fourth the strength of the fluid extract and is very palatable, being of pleasant taste and still retaining the characteristic odor of the drug. The preparation has been tested clinically in various hospitals, and in the private practice of many prominent physicians with uniformly good results. It contains the invigorating properties of Caffeine, with the stimulating effects of Theobromine and Kolanine. This latter principle is said by some investigators to be superior to Coca as a stimulant without the enslaving properties of the latter drug.

Messrs. Frederick Stearns & Co. have been for some time actively engaged in preparing a complete and exhaustive monograph on the subject of Kola, which is now in press, and will be mailed on request to all physicians who are interested. They will also be pleased to forward liberal samples of their Kola Cordial, and where physicians are willing to assume express charges, will send an original full size package, a quantity sufficient for several clinical tests.

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MEDICAL REVIEW.

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ORIGINAL ARTICLES

Pathology and Surgical Treatment of the "So-Called" Strumous Inguinal Lymphadenitis.

BY L. T. RIESMEYER, M D., ST. LOUIS.

The various forms of inguinal lymphadenitis have received but little attention in the text-books on surgery, yet, upon closer inspection, it is evident that they deserve a thorough discussion, for the general practitioner cannot afford to be ignorant of the possible consequences of these affections.

The anatomy of the parts is an important one; for in the immediate neighborhood of the inflammatory focus are situated the large vessels of the thigh, the hip joint, the genitals and the peritoneum. Profuse hemorrhage and gangrene in consequence of arrosion of the femoral vein, deep abscesses of the thigh and pelvis and retro-peritoneal abscesses, coxitis and gangrene of the scrotum, peritonitis, pyemia and septicemia are the dangers, to which the patients are exposed when prompt surgical interference is not resorted to and not a few deaths have beeen reported in consequence of some of these complications.

The form of lymphadenitis under discussion is known under the names of "strumous buboes," "indolent sympathetic buboes" and "hyperplastic adenitis," etc. During the period of nearly six years I have observed, in the surgical department of the St. Louis Post Graduate School of Medicine, forty-three cases belonging to this category.

As a rule the patients come to the clinic at the later stages of the disease and present the following symptoms: Face pale and ash colored, loss of appetite, pains in all limbs, chilly sensation alternating with sensations of heat, temperature varying between 100 and 102° F., nightsweats. Symptoms very similar to those observed in malaria. Upon examination a large nodular tumor, irregular in form, often fluctuating at one or more points, is found in one or both groins. The tumor usually measures about 3 to 5 inchse along Poupart's ligament and about 3 to 4 inches in its vertical diameter. The skin covering the tumor is in contradistinction to the virulent bubo, of a livid blue color and is not unfrequently perforated by one or more fistulous tracts. There is usually but little pain upon pressure. After removal the glands proved to be about the size of a hazelnut to that of a walnut and some even larger, and were studded with a great many miliary abscesses. In some cases the glands presented one large coherent fungous mass in which no individual gland could be made out. In one case the glands were imbedded loosely in the pus and could be removed with the greatest ease. The majority of patients had at one time been suffering from a gonorrhea. In others no cause could be found for the development of the lymphadenitis. In several cases the beginning of the swelling was attributed to the lifting of a heavy load. In three cases the patients had had chancroids several years before they presented themselves. In one case the patient had had a syphilitic chancre. Upon microscopic examination I have found a general inflammatory hyperplasia of the glands and of micro-organisms, staphylococci and single cocci and in a few cases streptococci. Many authors claim that the lymphadenitis presenting the appearances as above described is developed upon a scrofulous, tuberculous, or syphilitic basis or that the respective glands are diseased in some way or other, and upon the supervention of an inflammatory trouble this peculiar form of lymphadenitis is developed.

Klotz, who has reported one hundred and twenty cases, opposes this view for he found neither tuberculosis nor syphilis among them and considers the affection to be due to the absorption of septic material. My own observations also justify the view, that the development of this form of lymphadenitis is absolutely independent of syphilis or tuberculosis and is due to the absorption of pyogenic material of some kind. Of course, it may at times be associated with other pathological processes as the three cases of chancroids and one of syphilis, which occurred among my cases, seem to prove.

Klotz had an opportunity to observe this form of lymphadenitis in its earlier stages, and gives the following description of the disease:

"When the patient first presents himself a moderate swelling is observed in the groin covered by a skin, which is neither reddened nor tense; under the skin a number of hard readily movable, more or less separable nodules, varying from the size of a pea to that of a

hazelnut, may be felt, among which one is usually much larger than the rest. These nodules have attracted the patient's attention for days and sometimes weeks, but have caused but little discomfort; a tense feeling when walking, sometimes slight lancinating pains even when at rest, have been noticed, but upon pressure there exists but slight sensitiveness. The symptoms remind one of the adenosclerosis observed in the initiatory stages of syphilis and the affection at this period may easily be mistaken for the latter, if the history of the case is not clear.

"Treated or not, these nodules, or enlarged glands, will usually remain unchanged in size, and the skin covering them will still be movable for several weeks. Gradually, however, they become larger, approximate each other and lose their movability until a single hard, nodular, rigid and immovable tumor is formed. In the meantime disturbances of the general health have appeared, which by the patient as well as by the physician are often not supposed to be due to the local trouble."

For the sake of clearness I will recapitulate the particular characteristics of this disease:

1. Whole groups of glands become enlarged, which at a later stage present themselves as one large nodular mass.

2. The development is slow and local disturbances comparatively slight.

3. The color of the skin is a livid blue and in the latter stages fistulous tracts make their appearance.

4. The glands always contain miliary abscesses, which in the later stages may coalesce into larger pus cavities.

Klotz has observed these miliary abscesses in the earliest stages and to this especially do I wish to draw attention, since other authors do not lay much stress upon this particular characteristic. The hyperplasia of the connective tissue is usually mentioned as the primary condition, with which at a later stage suppuration in consequence of some mechanical insult may associate itself. The latter view is also taken by Gruenfeld in "Eulenburg's Encyclopedia of Medicine." More attention to these miliary abscesses is paid by Culvert (*Journ. of Cutan. and Genito Urin. Dis.*):

"After pus corpuscles or other irritative material have entered the glands, a dilatation of the bloodvessels of the capsule may take place, which necessarily must lead to the engorgement of the smaller vessels that accompany the tubercular within the parenchyma of the glands. This engorgement causes a hypertrophy of the connective tissue stroma, and encroaches upon the lymph-sinuses and exerts a pressure upon the capsule. The newly formed connective tissue shrinks and causes a narrowing of the nutrient arteries to such an extent that the lymph-corpuscles become necrotic and numerous small abscesses are thereby formed within the gland."

With regard to treatment Klotz recommends in the beginning injections of a five per cent solution of carbolic acid. In the later stages the complete removal of all diseased tissue is the only means to effect a cure. The method of operating at the Post-Graduate School of Medicine was incision, directly over the tumor, parallel with Poupart's ligament, and removal of the usually friable masses with blunt dissector, scissors and scalpel. Usually a large wound remains after the operation, at the floor of which the femoral vessels are exposed. The wound was usually sutured at the edges and a large tampon of iodoform or sublimate gauze placed in the center. There is often profuse bleeding from some of the veins which run together in the form of a star to form the saphenous vein which is, however, readily controlled. In cases where the tissues were very friable, ligatures *en masse* have to be resorted to, to stop the bleeding, since the artery forceps drop off by tearing of the friable tissues.

In those cases, where the peri-glandular tissue is not involved in the process, the glands are best removed by an incision recommended by Dr. Poelchen, of Koenigsberg. This incision is a vertical one, extending one or two centimeters below the lower border of the tumor. Its object is to first expose the saphenous vein and, dissecting along this vessel, leaving it intact upon the fascia lata, the tumor may be removed quickly and without endangering the femoral vessels. In conjunction with Dr. Pollmann, of this city, I have had occasion to locate this vessel topographically, in exercises upon the cadaver at the dissecting rooms of the Beaumont Hospital Medical College. After determining the course of the femoral artery in the usual manner, the vena saphena is found exactly at the point of union of the external with the middle third of a straight line connecting the spine of the pubes with the point of intersection of Poupart's ligament and femoral artery.

In front of the fascia lata is situated a star of veins which forms the saphenous vein, and whose center corresponds to the proximal end of this vein. Between and upon the rays of the star of veins are situated the lymphatic glands, which form a long triangle whose base extends between the symphysis pubis and anterior superior spine of the ileum and whose apex is situated about four inches lower at the inner side of the thigh.

Auspitz has claimed that no lymphatic glands exist behind the fascia lata below the foramen ovale. But Poelchen has found a small number also in that region. That some lymphatic glands are situated within the foramen ovale and connected with a chain of glands leading into the true pelvis, is a well-known fact and to be taken into consideration in the extirpation of inflamed glands as well as malignant tumors.

During the operation white cords are frequently met with, which run over or sometimes within the mass of diseased glands. Some of these cords are of the size of a quill of a pigeon's feather and have a very small lumen. Upon examination they have been found to be hypertrophied lymphatic vessels which, according to Klotz, converge to a main vessel, which is sometimes a centimeter in diameter and enters directly into some large vein.

After the operation the general health of the patient improves rapidly, the fever abates, the appetite is restored and the weight of the body increases rapidly. The wound heals in a time varying between ten days and six weeks according to whether it can be sutured entirely or only partially. In only one case, operated by a colleague, I saw serious complications occur namely, a pelvic abscess and a deep abscess of the thigh and very extensive gangrene of the scrotum. More than half of the scrotum and part of the septum became necrotic and for two weeks the patient's temperature varied between 101 and 105° Fahr. I succeeded by frequent irrigation, extensive opening of the abscesses and thorough drainage, reaching to the floor of the pelvis, to subdue the intensely destructive inflammation, and now, four years after the operation, the patient has no inconvenience from cicatricial contraction, showing that the loss of over one half of the scrotum does not necessitate a plastic operation.

A Statue to Claude Bernard will be unveiled at Lyons on October 26. The French Academy has appointed MM. J. Bertrand and Brunetiere to represent it on the occasion. The Academie des Sciences will be represented by MM. Chauveau and Bouchard. As the first French Congress of Internal Medicine will be in session in Lyons at the time, it is expected that the ceremony will be exceptionally brilliant.

Embolism of the Abdominal Aorta.—Matignon, in an article in *La Medecine Moderne*, reviews our present knowledge of this rare condition. He finds in the literature twenty-five cases, upon which his conclusions are based. Of these, twelve occurred in men. No case occurred before the twentieth year. In the majority of cases the embolism occurred in connection with an infectious disease, usually associated with an endocardial lesion. Thus, in six cases it followed acute articular rheumatism; in five cases puerperal pyemia; in four erysipelas; once each, typhoid fever, pneumonia, syphilis. In four cases there were endocardial lesions of indeterminate character. Usually emboli are found in various parts of the body in cases of fatal embolism of the aorta. The usual seat of the embolus is the bifurcation of the vessel, and it may occlude one or both of the common iliacs completely or partially. The symptoms vary somewhat in different cases, depending chiefly upon the degree of occlusion of the vessel. Their onset is sudden, and the most constant are violent pains in the lower extremities, paraplegia, cessation of pulsation in the arteries of the lower limbs, lower temperature of the legs, and rapid trophic change resulting in gangrene. The prognosis is very grave, twenty-three of the twenty-five cases described having died, usually within four days after the onset of symptoms. For such a condition treatment could hardly be expected to be of much avail.—*Amer. Jour. of the Med. Sci.*

EDITORIALS

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Humoral Pathology Revived.

It appears at the present time in which the attention of the medical world seems to be centered in the examination of the blood and numerous investigators are at work to study the anatomy, normal and pathological, of the blood and as many others to investigate the physiology and pathology of the blood plasma and serum, that since the epoch-marking cellular pathology of Virchow, humoral pathology has been sadly neglected and that the hypothesis of former years that disease processes had their origin in the changes of the humors of the body is, partially at least, founded upon scientific facts. Toxins, ptomains and leucomains are carried by the humors of the body, the blood serum and the lymph to the various organs causing, to a great extent, the symptoms of disease and in the present light of science the resisting power, or immunity, of the body against disease depends principally upon the condition of the blood serum. According to Buchner the great difference between natural and acquired immunity has been definitely established. We learn from an abstract in the *British Medical Journal* of a paper by this author published in the *Muencher Medicinische Wochenschrift*, that "'natural immunity' seems to be brought about by

the bactericidal action of a protective substance or alexin in the blood serum. This alexin differs from the antitoxin found in the serum of animals artificially made immune. Alexin acts upon the bacteria, and also upon the red cells, and even leucocytes belonging to animals of other species, whereas such bactericidal and globulicidal action is not possessed by antitoxin. Alexin is most easily decomposed, whereas antitoxin is a stable body. The effects of antitoxin are the same, whether coming from one animal or another, and only depend on the degree of acquired immunity possessed by the animal. The author contends that the serum of animals made immune contains both alexin and antitoxin. Thus a body can be extracted from the blood serum of an animal made immune and can be transferred to another. There are two explanations in regard to this body—namely, that it is a reactive product on the part of the tissues, or a modified product of the bacteria cell. The chief point, however, is that the living body is necessary for the production of this antagonism of the antitoxin against the cause of the disease. The author would limit the term immunity to the acquired form, and thus speak of specific immunity, including the immunity against the bacteria poison and of natural resistance. The action of tuberculin does not lie in any specific immunity, but in an increased natural resistance. In this respect he refers to the researches of Hueppe in relation to cholera, and those of Fraenkel and Rumpf in relation to the treatment of enteric fever by killed cultures. The author maintains that endeavors are being made in the protection against disease by increasing the natural resistance. He then quotes an experiment in which sterilized wheaten gum was introduced into the pleural cavity of a large rabbit. After it was killed the gum was found infiltrated with leucocytes and possessed of marked bactericidal powers against the B. coli communis. The leucocytes were destroyed by freezing, and yet the bactericidal powers remained. These powers were soon destroyed by heat. The author would attribute these powers to the presence of alexin, probably derived from the leucocytes. He looks upon the blood as the great antiseptic and disinfectant of the body, and draws attention to the importance of its investigation in diseased conditions."

Asylums for Alcoholics.

A question that has been agitated for more than a generation by competent and incompetent writers in this country has been practically solved in France.

Hitherto the uncontrollable and inveterate alcoholics had the choice only between the insane asylum and the prison. Neither is the right sort of a place for them. Inebriate asylums, for curative as well as custodial care, are considered a necessity by all who have given this subject any thought at all, and who are competent to form an opinion. Of course, there are instittions in all civilized countries where well-to-do alcoholics may find shelter and treatment, but there have been none for the poor thus far.

To France belongs the honor of having introduced an innovation in the shape of a separate department, calculated to accommodate five hundred alcoholics, in the newly established asylum at Ville-Evrard.

The Unauthorized Renewal of Prescriptions.

In a communication that appears in a recent number of the *American Journal of Pharmacy* a graduate in pharmacy takes the ground that it is optional with the druggist whether or not he shall renew a prescription, even though this be accompanied by a request from the prescriber that it be not renewed without special authorization (*Med. News*). He quotes pharmaceutic authority that such a request ("command" it is designated) on the part of the prescriber is "both useless and presumptuous." Useless it may be with a certain class of druggists, but certainly not presumptuous, for surely the druggist would not undertake to instruct the physician in the arrangement of the contents of his prescription, and the character of the directions is not less important than the quantities of the constituents. It is admitted that there is some danger in the renewal of certain prescriptions, such as those that contain poisons and drugs the use of which is likely to lead to the formation of habits, and that there is possibility of abuse with regard to others, such as are intended for common ailments, and may be transferred from one person to another, but the privilege of renewal, it is maintained, resides with the druggist, although this particular writer avers that he individually has always respected the physician's request. To do otherwise would be nothing less than a breach of confidence. Even the renewal of prescriptions in the absence of specific instructions is for the druggist to usurp the position of the physician in the treatment of the case, and to assume that the former is as cognizant of the therapeutic indications as the latter. We do not care here to enter upon a discussion of the hackneyed question of the ownership of the prescription, but if any druggist proved so faithless as to ignore our printed, written or verbal request as to the renewal of prescriptions, we should feel called upon to warn our patients against dealing with so dishonorable and untrustworthy a person. Counter-prescribing, nostrum-dispensing and indiscriminate renewal of prescriptions are evils of which the pharmaceutic profession were well rid, but the failure to observe the explicit instructions of the prescriber would be a breach of faith that could not be condoned and would not be tolerated. With equal right the druggist might in his judgment change the proportions, or the quantities of the ingredients, or even the ingredients themselves. We can scarcely believe, however, that there is any considerable number of pharmacists who would prove themselves so

unworthy of confidence as to fail in the matter of prescriptions to comply with any legitimate request on the part of the physician, and surely the desire to control the treatment of a patient for whose welfare he assumes the responsibility cannot be considered as otherwise than legitimate.

CORRESPONDENCE

Plagiarism.

Editor MEDICAL REVIEW.—Though reluctantly we approach the subject, it is from a standpoint of justice to the practitioner that we ask space to mention a growing evil that has pervaded our medical literature till we are forced to look upon it with contempt and proclaim it as a bold effort of incompetency, illiteracy, as unmedical and unscientific, namely,—whole articles which come to us as original by some usurper whose talents consist mainly in the compilation of a series of articles by one or more legitimate writers. This is getting to be too common and is easily detected by those who read much. Frequently we are attracted by the title of an article, but when we find it only a compilation of our previous reading, and when we see the subject handled so as to give little or no credit to the *real* author but are left to believe it a product of the compiler's self-imagined fertile brain, we are disgusted. We do not mean to exclude that valuable aid to accomplishment—suggestion. Most of these contributions are from the pen of self-styled specialists who are enthusiastic in educating the unlearned (?) practitioner, and to reciprocate their generous charity we are supposed, out of the gratefulness of our hearts, to forthwith read and turn our patients over to them.

It is not our aim to be personal, but inasmuch as several examples have come to us from a single source, we wish to use them as being illustrative of the point at issue. Some of these articles—we don't say all—openly invite suspicion of compilation, pure and simple, and with but slight, if any, credit given to the authors whose thoughts (ideas) were sandbagged and plundered in the byways of so-called specialism while the masters slumber. On inquiry we learn this source is a city of one hundred and forty thousand, yea, fifty thousand people—and out of this great city have come some wonderful compilations.

The first reference we recall was a carefully and tenderly prepared paper which was aired at the Missouri State Medical Society, in '93 (we think), entitled, "State Care of Epileptics." It reads well and is not wanting in enthusiastic originality for the promotion of the cause, which is a good cause to labor in, but we really had to blindfold ourselves to keep from reading between the lines the photog raphic ideas of Dr. Frederich Peterson, of New York, to whom belongs the main glory in so ably and indefatigably laboring in the introduction of this idea which he brought to us from Germany. We have read much from his fertile pen and conversed with him on this subject, and while we don't say his papers have been compiled, we were forcibly impressed with the similarity which the above paper bore to his many.

Another paper which we remember having read in the *Medical Index* of '92 (?), the title of which has gone from us, was a wonderful discourse on the physiology and development of the brain. "Of course" it was a masterly production and would be of inestimable value were we not able to duplicate it, but inasmuch as Edinger had so ably dealt with the same subject we have retained the latter's work in our library—'tis hard you know.

Again in the *Medical Herald*, of St. Joe, we notice an article—(Neuropathic Diathesis, Constitution, or something of the sort)—of much verbosity, and, while we have never been able to exactly "place it," though it seemed familiar to us, we met a prominent educator who said: "I was one of the many who listened to its reading in the public school building and after the wise man had finished we went straight way to our several homes and after much slumber and feasting we came forth rested."

But the latest and last we will mention appears in the REVIEW of July 21, 1894, entitled, "Paralysis—Its Differential Diagnosis." Why, say! it fairly paralyzed us "don't you know." When we look at the appendages to the name and then view the article for talent it makes us feel sad—actually sad. It is a typical "come kiss me good-bye, go bring me a case" sort of an article. After reading it we pause, and in our meditation we lose ourselves in a day dream of our text-books; and in our somnambulistic visions we see the word paralysis written in both the pleural and singular and a distinction between adjectives and adverbs—but, we awake to find the plunder of our dream still before us.

After telling us some physiological anatomy, yet, the author "reminds" us (the practitioner) that we have but a mere "smattering" knowledge "of cerebro-spinal architecture" and that it is wonderfully important for us to heed him, and, with the self-assurance that we are his, he stalks forth with a big "I" and a "to make my remarks as practical as possible," he "directs" our attention * * * to the commonest form of paralysis, * * * namely, hemiplegia—of course simplicity is essential to our comprehension and we appreciate his effort. He now tells us hemiplegia is due to rupture of the lenticulo-striate artery (just what we were told years ago in college) and enumerates the exciting causes (various exertions), but forgets the large percentage of hemiplegics that retire apparently well and awake from a seeming natural sleep to find they are paralyzed. He also tells us the motor tract *diverges* at the internal capsule but we were taught, in olden times, that the motor fibers *converged* in their passage from (not to) the cortex,

through the centrum ovale to capsule mention, the direction in which they functionate.

Though the paper is entitled "Paralysis—Its Differential Diagnosis" nothing is said of nuclear, crossed or tumor paralysis, or the tubercular or other affections of the base which give rise to special palsies. Cortical paralyses are dispensed with as being monoplegic. This is true of isolate lesions but not of extensive lesions, besides symptoms of cortical paralyses, of which he says nothing, differ widely from those of non cortic palsies.

It is plain that his "Differential Diagnosis" is not worth the paper it is written on, viz.: In the first, summary of twelve symptoms are given as being *differential* of cerebral palsies, only five of the number being expressed without a negative, or doubt, and three of these five are always secondary and not present when a diagnosis is wanted. Any one knows the exaggerated reflex in hemiplegics is not present till descending degeneration succeeds the lesion, that the hemiplegic gait is not present till the patient walks, often sometime, and that muscular spasticity is secondary.

His "Spinal Disease."

On the introduction we are not critical to fault-finding as the remarks on the physiological anatomy are fairly well quoted and with the exception of the big "I desire to call your attention" it differs but little from our early instructions. He wishes us to believe that a knowledge of paraplegia is equal to differential ability in isolating the character of the paralysis. He says: "Whenever, therefore, we are called upon to attend a patient suffering from paralysis the fact of its being paraplegic in character strongly suggests a spinal lesion, and more especially when this is associated with muscular wasting or atrophy with degenerative reaction demonstrated by the electric current, as well as muscular flacidity with loss of reflexes, as well as an anesthesia girdle * * * involvement of bladder and rectum, * * * our diagnosis is easy and certain, but many of these symptoms may be absent by reason of their centers on the cord remaining 'intact.'"

We do not pretend to speak as a finished neurologist but with a practitioner's "smattering" knowledge; however, we mention the fact that paraplegia often is present in the absence of all the above enumerated symptoms excepting the paretic condition—possibly plus anesthesia, namely, hysterical paraplegia. Admitting we have a lesion, and consequent palsy, we by no means have his "differential" cut and dried set of symptoms and a paraplegia. Paraplegia is only one form of paralysis out of many of spinal origin. That degenerative reaction is diagnostic of a spinal lesion is mere twaddle devoid of reason. It is never present in acute affections and could offer no assistance in immediate diagnosis. It is a secondary symptom resulting from segmentary dissolution of nerve trunks entirely independent of a spinal lesion. We have seen it present, secondarily, where there is a complete blotting out of the anterior grayhorn, such as sometimes occurs in anterior polio-myelitis, but this does not suggest paraplegia. We might say that De R. is a stranger to spinal palsies in comparison to its presence in the field to which it belongs properly, for there it is most frequent and becomes an important prognostic symptom.

In speaking of peripheral paralyses, with the exception of a direct quotation from Dana (partially credited), there is simply nothing to make the matter practically tenable. In this field where we would expect to see something concerning De R. as a symptom nothing is said, but he says there may be "changes in electrical reactions" in speaking of the muscles, but this is a very different symptom from degenerative reaction.

In closing he says: "As a further aid is differential diagnosis I desire to recapitulate in the form of a table some of the facts referred to in my paper, which I trust may prove of value to any who may be in doubt as to whether a lesion causing paralysis is situated in the brain, spinal cord, or peripheral nerves."

Now, it is kind of him to relieve us of his *awful* "doubt" and we appreciate the generosity inasmuch as he extends the "aid" to "*any who may be in doubt,*" but unless our friend's application at the gates of Heaven is more comprehensive to St. Peter than his "recapitulation in the form of a table" is to us, there will be another case of Lazarus and the "rich man."

We will only mention in brief a few of his tabulated "*aids*" under the head of "Differential Diagnosis" of brain and cord paralysis, viz.: Of cord origin he says we have "Gradual onset usually—Loss of consciousness;" of brain origin "Sudden onset usually—Loss of consciousness usually." In other words he tells us that paralysis due to spinal lesion is gradual in its development and attended by loss of consciousness; that brain palsies are sudden in onset and sometimes attended by loss of consciousness. We accept the latter as probable, but we refrain from believing that it is possible for any man to lay unconscious for months waiting for a spinal palsy (suppose he means paraplegia) to develop, however this may be a high law in neurology that has hitherto not been handed down to us poor ignoramuses. We see in "aid" IV he says, "Type of paralysis paraplegia usually" (spinal). In VII (spinal) he says, "Spastic rigidity of muscles not common" but he seems to forget that implication of lateral columns of cord gives most obstinate contractures. In VIII (spinal) he says, "Reaction of degeneration the rule;" (cerebral) "Not present usually." In other words Re D. is always present in spinal palsies but only occasionally so in brain paralyses. We have mentioned above that Re D. is a secondary symptom dependent on degenerative segmentation of *nerve trunks* (not brain, not cord), but may be present if spinal lesion cuts off *completely* the anterior horn, motor, cells; so speaking generally of spinal palsies, *it is not the "rule,"* but a *rare exception.* He might have conceptions of De R. due to brain lesion occasionally but we can't. In IX he says, "Loss of reflex common" (spinal), but don't tell us it is only absent

when the reflex arc is severed, nor that extension of disease to lateral columns may cause its return, ranging from a minimum to an exaggerated degree. In XIV (spinal) we find "Anesthesia sometimes;" (brain) "Quite common," and in XV, the very next breath, he writes, (spinal) "Entire absence of sensory symptoms diagnostic;" (brain) "Not usually present." It explains thus, referring to the cord in XIV, that we do have anesthetic states in some cases of paralysis (which is correct) but immediately contradicts it by saying complete absence of such symptoms is "*diagnostic*"—of spinal paralysis we suppose he means; referring to the brain in XIV he tells us sensory symptoms are common and then in XV concludes they are usually not present. And this is differential diagnosis!

Now we have not pretended to discuss this last paper, but simply attempted to emblazen an occasional tree to work our path as we wander through the woods of medicine in darkness, for we are deeply conscious of our inability to cope with this walking encyclopedia of neurological blunders and we retire from the field expecting the reader to weave together facts which are beyond the comprehension of a practitioner possessed of only a "smattering" knowledge "of cerebro-spinal architecture."

In conclusion, for "aids," we appeal to the talented author and specialist, whose advantages surpass those of the country practitioner and whose valuable counsel we welcome, but we can't longer submit to ante-mortem eulogies by literary usurpers of the verbatim et literatim (et ne plus ultra) type whose discourses are neither enlightening nor entertaining.

A. YOUNG, M D,
Per STEPHEN BURNETT. South Bend, Kansas.

MEDICAL SOCIETIES

The British Medical Association.

Sixty-Second Annual Meeting, Held at Bristol, July 31 to August 4, 1894.

We are indebted for this report to the *Medical Record.*

SECTION OF OBSTETRIC MEDICINE AND GYNECOLOGY.

FIRST DAY, WEDNESDAY, AUGUST 1.

DR. J. G. SWAYNE, the President, delivered a short introductory address. He reviewed, historically, previous meetings of the Association at Bristol, and referred to his address in 1883, when he insisted on the importance of midwifery, and that it should stand next to medicine and surgery, and not be considered a specialty. Since then a new race of gynecologists and abdominal operators had sprung up.

He drew attention to the fact that medicine and surgery formed the subject of an address each year, but that obstetric medicine only occasionally did so, and thought that that was wrong.

INDUCED LABOR IN THE ABSENCE OF DYSTOCIA.

DR. ROBERT BARNES, of London, opened a discussion on "The Necessity of Inducing Labor in Certain Conditions of the Mothers not Obstructing Delivery." He said that as medical science advanced this was a matter which needed revision. We should study the methods of nature in adopting this means of relief; the safety of the mother should be our first consideration, and of the child the second, but frequently the two conditions ran together.

The duty of the physican when the pregnant woman was in difficulty was to consider the means of safety for both mother and child, and no problem in medicine was more difficult.

The most remarkable phenomena of pregnancy were increase in the blood and in the blood pressure. We must recognize that the struggle between pregnancy and the coexisting disease was strictly physiological.

We must keep a strict watch over each organ, but be careful not to press expectant treatment too far. Several of the conditions were those which attended excessive nerve tension, and were of a convulsive character; of these the first one was vomiting; this was like other convulsive attacks and tended to be rendered chronic, each attack helping to graft a habit of vomiting.

Vomiting, in his experience, was most severe in cases where there was nerve shock or depression; rapid disintegration of tissue followed persistent vomiting, and this tended to cause a condition of toxemia, ending in coma and death. Vomiting may throw excessive strain on the brain and cause cerebral hemorrhage. When rapid emaciation with toxemic symptoms occurs, the induction of labor may prove too late. In cases in which the vomiting is due to excessive distention of the uterus, labor should be induced early.

Tetanus was a strong indication for the induction of labor. In chorea he thought that pregnancy should be terminated, and, as a general rule, one should not allow pregnancy in any convulsive disorder to continue. In insanity he would induce labor, though Dr. Savage was of a different opinion.

Vascular disorders, the excessive blood-pressure found in pregnancy, was sometimes relieved by external hemorrhage as epistaxis, by serous effusion, or by vomiting, throwing off some fluid, or by dropsical effusion, or might result in cerebral hemorrhage. For the excessive blood-pressure we should purge, and in some cases venesection was strongly indicated, and, as a last resource, we might induce labor.

Extreme anemia might render induction necessary, or it might be required when valvular disease of the heart or aneurism was present. We should carefully watch these cases and induce labor when distress supervened. He believed that pregnancy aggravated phthisis, but

the question of inducing labor was a difficult one. When tumors coexisted, as a general rule it was safer to let pregnancy go on. Repeated labors with a dead child suggested the bringing on of labor in a succeeding one before death occurred, and he believed that carrying a dead child was injurious to a woman. In scarlet fever he would induce labor if albuminuria were present.

In conclusion, he would urge the rule laid down by Denman, never to perform the operation without a consultation beforehand.

The President said that in an experience of fifty-two years he had induced labor 37 times; in 24 of these cases it was done for contracted pelvis. In the remaining 13, 5 times for persistent vomiting, 3 for anasarca and albuminuria, 2 for hydramnois, 1 for vaginal hemorrhage, 1 for severe irritability of bladder, 1 for diseased placenta.

Dr. More Madden, of Dublin, said that where the child had died in previous pregnancies he would induce labor as early as the sixth month, and he believed that at that time the child would be viable. As regards method, he preferred that of dilating the cervix by the finger.

Dr. Murphy, of Sunderland, thought the most frequent of the cases under discussion were those of grave albuminuria. As regards method, where no hurry, he would rupture the membranes; where rapid delivery was required, he would use Barnes' bags. Where the bag could not be introduced he would start with a tent.

Dr. Murdock Cameron, of Glasgow, would take exception to the induction of labor in fevers. With respect to uterine tumors he would not be inclined to interfere, unless the tumor were likely to obstruct labor. You may remove the tumor without interfering with the pregnancy. He did not think the child was viable before the seventh month, and the nearer the eighth month the labor was induced, the better. In ascites it was sometimes necessary to induce labor. In hemorrhage and eclampsia he had no hesitation in inducing it, although some were still disinclined to induce it in eclampsia. He thought some cases of violent vomiting were lost by delay.

Dr. Heywood Smith, of London, would not induce labor in cases of fibroid tumor.

Mr. J. W. Taylor, of Birmingham, called attention to cases of dropsy and albuminuria before the child was viable, and thought that these were the cases in which it was most desirable to have some settled rule laid down.

Dr. Massey, of Bournemouth, related a case of severe dropsy in which he had induced labor by passing a catheter between the membranes and uterine wall with good result.

Dr. Byers, of Belfast, agreed in inducing labor in cases of vomiting which persisted in spite of treatment, but thought that all were not agreed that, given albuminuria in pregnancy, induction of labor should be decided upon.

He related three cases of primiparæ all with albuminuria and dropsy:

1. Dead fetus, no interference, good recovery; he did not interfere because the fetus was dead and there was no high-tension pulse.

2. Primipara, sixth month, one-fourth col. albumin, no high tension pulse, no marked edema; treated by warm baths and milk diet; living child at term; good recovery.

3. Much headache, high-tension pulse, labor induced.

Cases like the third were more troublesome because eclampsia was likely to follow. Recently Smyly, at the Rotunda, had found that in a large number of cases of eclampsia equally good results were obtained by leaving pregnancy alone and injecting morphia hypodermically.

Dr. Wright, of Leeds, had in one case been obliged to induce labor for severe ptyalism. In ovarian tumors would remove tumor and leave pregnancy. Would use solid bougie instead of catheter.

Dr. Aust Lawrence, of Bristol, urged necessity of first inquiring if vomiting were due to any other cause; had seen cases in which it was due to acute yellow atrophy of liver. Urged importance of giving a good trial of other treatment, especially of moral suasion; would be very chary of inducing labor in fever.

Dr. Tweedy, of Dublin, said that in the Rotunda Hospital the induction of labor was looked upon as a dangerous proceeding only to be resorted to in extreme cases, and it was seldom done except for contracted pelvis.

Recently a woman was admitted with fibroid tumors at the seventh month; a Porro's operation was done at term. He believed that in only two per cent of cases of albuminuria did eclampsia follow, and they did not induce labor at the Rotunda in cases of eclampsia in pregnancy but treated the condition by hypodermic injection of morphia, one-half grain every half-hour, with very good results.

He had never seen a case of death from vomiting in pregnancy. In ovarian tumor in pregnancy he would open abdomen and remove tumors.

Dr. M. A. Scharlieb, of London, had twice done ovariotomy in pregnancy with good results.

Dr. Boxall, of London, had induced labor in one case, because of varicose veins in vulva which threatened to burst. Would be very diffident in interfering in cases where fibroid tumor complicated pregnancy.

Dr. Pearse, of Southsea, thought that a mistake was often made in waiting for a viable child, and that the condition of the mother should alone decide the necessity.

Dr. Barnes, in reply, said that he had seen cases of vomiting prove fatal. As regarded method, preferred bougie to catheter. He did not think digital dilatation desirable. There was no class of cases in which the induction of labor was always necessary, and he did not advocate it in all cases of albuminuria. In convulsions, he thought inhalation of nitrite of amyl the best treat-

ment. He would retract now an opinion he expressed years ago, and would say that when there was ovarian tumor and pregnancy, you should remove the tumor and not the pregnancy.

Uterine Fibroids.

Dr. M. A. Scharlieb, of London, then read a paper on "The Treatment of Uterine Myomata." She gave an account of the operative proceedings in nineteen cases. In six she removed the appendages, and all recovered. In thirteen she removed uterine tumor and appendages, and two proved fatal. In one she removed tumor only. In the first six cases she removed the tubes as close to the cornua as she could.

In the cases of hysterectomy she first ligated the broad ligaments outside the appendages, then ligated the uterine artery. She made flaps of the peritoneum on anterior and posterior surfaces of uterus, and she carefully disinfected the cervix with pure phenol. She closed the abdominal wall with three separate layers of stitches. In four she used a temporary elastic ligature, and in all these she drained. In the remainder she tied all bleeding points and did not drain.

The lessons she drew were: First, the importance of thorough surgical cleanliness.

In her cases the patient had repeated hot baths first, then the skin was disinfected by washing with soap and water, alcohol, solution of permanganate of potash, followed by oxalic acid. Then 1 to 2,000 corrosive sublimate, and lastly a carbolic compress was left on for twenty-four hours. The clothes worn by the patient were also sterilized. The operator and assistants cleansed their arms and hands in the same way as the patient's abdomen was done, and wore sterilized linen overalls. The instruments were boiled and laid in 1 to 20 carbolic, which was diluted with boiling water at the time of operation, and they were put down during operation in a shallow dish containing carbolic. The sponges were cleansed with sulphurous acid and kept in carbolic.

The second lesson to be learnt was the importance of handling the peritoneum as little as possible; she did not believe in sponging or mopping the peritoneum, and thought that doing so encouraged hemorrhage. She avoided the temporary elastic ligature as much as possible, because she thought that there was more oozing afterward. She avoided drainage as much as possible.

The third lesson was to tie the arteries, both uterine and ovarian, carefully; and the fourth, to treat the stump intra-peritoneally.

In all cases there was no sepsis, and the two which proved fatal died from shock. She did not leave a ligature on the stump; because it caused death of tissue. She drew attention to the fact that only one of the cases was the mother of children, the remainder being unmarried or sterile.

Resection of the Uterus.

Dr. J. Stuart Nairne read a paper on "Resection of the Uterus for Fibroid Tumors and other Diseases." He pointed out that removing the appendages did not always restore to health, that enucleation of the tumor per vaginam or by abdominal incision was dangerous and the results not always satisfactory. He would propose what he called resection, namely, to split the uterus together, tying the vessels as he met with them. He had treated three cases in that way, they had recovered and one had since had a child.

Extirpation of the Uterus for Myomata.

Dr. Smyly, of Dublin, read a paper on "Total Extirpation of the Myomatous Uterus." He said that the treatment of uterine myoma was still one of the burning questions of the day, but that he in this paper would deal only with the last resource of surgery. He would advise, however, that those who were beginning to do hysterectomy should adopt the extra peritoneal treatment of the pedicle; this was the only method he adopted up to 1892, since then he had only done one case in that way. What he did now was to perform total extirpation in one of three ways: By abdominal section, per vaginam, by a combination of the two, or the "mixed method." The dangers of hysterectomy depended on the stump, and by adopting this method these dangers were removed. He had done fifteen cases with two deaths. By the mixed method, eleven cases with one death. By the vaginal method, one case, no death. Some very large tumors among them. One where the uterus was as large as a full-term pregnancy and contained several myomata was removed in this way. He opened the abdomen, ligatured the broad ligaments, then divided the pouch of Douglas, and lastly separated uterus from bladder.

In small tumors he had removed the uterus per vaginam by morcellement, and in one case the fragments weighed two and a half pounds; for two days beforehand the vagina was packed with antiseptic gauze, patient was placed in lithotomy position, and cervix drawn down and separated from bladder. Pouch of Douglas then opened and cervix cut away, and then uterus attacked.

Dr. Heywood Smith, of London, congratulated Mrs. Scharlieb on her success; he thought that soon all cases would be treated by the intra-peritoneal method or by complete extirpation. Vaginal hysterectomy showed a less mortality than any other method, but the best way of dealing with these tumors was not yet determined.

Dr. Rabagliati, of Bradford, related a case in which a large fibroid disappeared after pregnancy, and thought that now too much attention was directed to surgical treatment and too little to dietetic and medicinal.

Dr. Cullingworth, of London, drew attention to the extreme care which Mrs. Scharlieb paid to the prevention of sepsis, and said that the method resembled that adopted in the Johns Hopkins University Hospital, as published by Dr. Howard Kelly; and the same precautions had been adopted in a maternity at Clapham, carried on by ladies, with excellent results. He complained that there were not sufficient statistics at present to enable one to decide whether hysterectomy was justi-

fiable or not, and that what we really want is an authentic history of a number of cases not treated surgically; operations were more frequent now because we know that these tumors sometimes kill, but many disappear without operation.

Dr. Travers, of London, thought that cases after hysterectomy were never so well able to work for their living as after other abdominal operations.

Dr. Aust Lawrence, of Bristol, thought that the station of life of the patient often determined the treatment. Thus hysterectomy was required in the poor woman, whereas a well to do one who could lay up might avoid the operation.

Dr. Barnes, of London, would like an authoritative opinion as to whether a fibroid tumor ever killed, as it had recently been stated by a prominent London physician that they never did so.

Mrs. Scharlieb, in reply, said that one seldom found the appendages healthy in cases of myoma; in nearly all her cases the ovaries were enlarged and cystic. The question of removal of the appendages of the tumor depended on the nature of the growth. Thus in large, smooth, uninodular tumors removing the appendages did not check the growth; also multinodular tumors, when of large size, needed the major operation, though in two or three of her cases the electrical treatment had been used and had proved futile. She thought that there was no doubt that fibroids did sometimes kill by the hemorrhage and pain, or by pressure on the ureters. Her patients had been able to return to hard word after the operation, and no hernia had resulted in any of her cases.

Second Day, Thursday, August 2.

Hemorrhage in Late Pregnancy.

Dr. Smyly, of Dublin, opened a discussion on "The Treatment or Hemorrhage During the Last Two Momths of Pregnancy." He said that in the great majority of cases this was due to separation of the placenta; the uterus was divided into two distinct portions, and this difference which existed in pregnancy was most apparent after parturition. The upper thick portion received its blood-supply directly from the uterine and ovarian arteries, and the lower thinned portion, to which the blood vessels passed, from the upper segment. The limiting line was called the retraction ring; the placenta was sometimes situated in the lower segment, but wherever its situation premature separation of it caused hemorrhage. It was not possible always to draw a line between accidental and unavoidable hemorrhage.

Placenta previa occurred in women who had borne several children rapidly, also in connection with an en larged and diseased uterus. The placenta was seldom normal in these cases. It was thinned. There were often spaces in which its tissue was deficient, and placenta succenturiata occurred. He thought that an abnormally low attachment of the placenta might be attributed to four causes:

1. When there was a very large placenta which could not find room in the uterus.
2. When the uterine walls were concave inward, instead of convex, as they should be, and there was an actual instead of a potential cavity.
3. The stretching of the cilia in endometritis.
4. The placenta being developed from decidua reflexa.

The diagnosis was made from the hemorrhage and from feeling the placenta. He did not believe that auscultation was of any value for diagnostic purposes. The hemorrhage before labor may be due to a disproportion between the placenta and the area of its site. Hemorrhage during labor was due to the distention of the lower uterine segment, and its being drawn up by the action of the longitudinal fibres, and the detachment of the placenta may cease with the rupture of the membranes.

Treatment.—In almost all cases the os will admit two fingers; if so, bring down a leg and then leave the case to nature. If further hemorrhage occurs, gentle pulling on the leg will arrest it. There were two conditions in which this treatment was inapplicable:

1. When the os would not admit the finger; in these he would plug the vagina.
2. When the labor was advanced and turning impossible.

In these he would rupture the membranes. He did not recommend any other methods, and disapproved of accouchement force and separation of the placenta by the finger. The method which was common was bad, viz., to plug the vagina until the whole hand could be introduced, and then to do intenal version. This was attended by many dangers, among which he would mention sepsis, entrance of air into veins causing sudden death and laceration of the cervix.

The mortality of the method he had described had been seven per cent. Of twenty cases lately treated two had died.

Accidental Hemorrhage.—He did not think that an accident would cause separation of a healthy placenta. The commonest cause of this condition was disease of the endometrium, and this was frequently associated with syphilis and renal disease. The blood vessels were diseased and caused hemorrhage, and this went on if the blood had not free escape until the pressure to which it was subjected equalled the blood pressure in the maternal vessels. He thought that concealed accidental hemorrhage was due to some disease of the uterine will, which rendered it unable to resist the pressure of the effused blood, and on that account he looked upon it as dangerous because it always betokened a diseased atonic uterus.

Treatment.—It was impossible to lay down a routine treatment, and he thought that the importance of rupturing the membranes had been overstimated, and this was only useful when labor was somewhat advanced. Some cases require nothing to be done. When the os was small he thought that rupturing was bad, as it reduced

the pressure in the uterus and so favored further hemorrhage. It does not always induce pains, and so blood flowed into the partially emptied uterus. It is better in severe cases to combat shock, and where blood is escaping from the uterus to use vaginal douches of hot water, followed by a vaginal tampon. He did not think that the tampon favored concealed hemorrhage. After rupturing the membranes he would never use tampons. In very bad cases he believed that Porro's operation would be better than accouchement force.

He epitomized his treatment thus: When os small, preserve membranes; when hemorrhage appeared externally, plug; when labor advanced, rupture membranes and deliver by the best method possible.

Dr. Robert Barnes, of London, believed that disease of the uterus was the most common cause of hemorrhages; but that disease of the placenta was also a cause. In placenta previa he would not use accouchement force. He described the retraction ring long before Bandl. He looked upon placenta previa as resembling ectopic gestation, in that the placenta was fixed to a part which was not adapted to receive it. When the os was small he used his own bags. He always preferred forceps to version, where possible, as it gave a better chance to the child. He did not like the use of the vaginal plug.

Dr. Byers, of Belfast, had met with cases of placenta previa in which the os would not admit the fingers, and in three such cases he had tried De Ribes' bag with good results. After introducing the bag, if labor did not come on, he had found that gently pulling on the bag would hasten it, and would arrest any hemorrhage. He had found that he could introduce De Ribes' bag when the os was the size of a shilling. In accidental hemorrhage rupture of the membranes only did harm when pains did not quickly follow.

Dr. More Madden, of Dublin, was opposed to a good deal that Dr. Smyly had said, and he advocated accouchement force and the vaginal plug; for the latter purpose he used a clean sponge soaked in terebene. After sufficient dilatation had been obtained he performed internal version, never using bipolar method. In accidental hemorrhage he saw no objection to rupturing the membranes.

Dr. Murphy, of Sunderland, said that we should recognize the danger of placenta previa, and if the seventh month had passed take the case in hand at once. He had always found in cases of placenta previa that the finger could be introduced into the cervix. He then separated the placenta for a short distance around the os and put in a Barnes bag, and as soon as sufficient dilatation had been obtained he delivered. He thought that the place to put in a plug was the cervix, and not the vagina.

Dr. Murdock Cameron, of Glasgow, entirely disapproved of Porro's operation in any case of accidental hemorrhage. He advocated the vaginal plug. He had never seen a case of concealed accidental hemorrhage. When the placenta was central he always pushed his fingers straight through its substance.

Dr. Scharlieb, of London, believed in plugging with iodoform gauze.

Dr. Robert Boxall, of London, had investigated the point on the membranes which presented over the os by touching it with eosine at an early stage of labor, and locating the stained spot afterward. He found that in many of these cases the placenta must have encroached on the dangerous zone, though there were no symptoms of placenta previa, and the latter was especially the case when the membranes ruptured early. In some cases external version was possible. He drew attention to the fact that an accident was sometimes the cause of hemorrhage in placenta previa marginalis. He had examined a large number of placentæ, and in several cases had found evidence of hemorrhage having occurred a month or two previously, when there had been no symptoms. He impressed the necessity of inducing labor when hemorrhage had once occurred. In cases where there was no dilatation of the os, the hot douche proved useful. In some cases he plugged the vagina, using wool soaked in sublimate solution. He had seen cases in which the placenta covered the greater part of the interior of the uterus.

Dr. Aust Lawrence, of Bristol, said that when the cervix would not admit the finger he was in the habit of plugging the cervix with iodoform gauze. He thought cases in which there were repeated small bleedings were more dangerous than those in which the hemorrhage was at once alarming. He would never leave the woman until labor was finished when once bleeding had set in.

Vaginal Hysterectomy for Cancer of the Uterus.

Mr. F. B. Jessett, of London, then read a paper entitled, "On Thirty Cases of Vaginal Hysterectomy for Carcinoma Uteri, with Two Deaths." He said that vaginal hysterectomy was now a well-recognized operation, and was done in three ways: 1, using ligatures; 2, using clamp; 3, combined abdominal and vaginal method. He laid great stress on the importance of suitable preparation of the patient beforehand. He would have her kept in bed three or four days, and syringe vagina frequently. He dusted iodoform of cervix through a Ferguson speculum, especially if there was ulceration. The diet should be light.

Details of Operation.—Patient in lithotomy position, using Clover's coutell. Two Sims' specula were passed, one in front and one behind. A sharp hook seized the anterior lip of cervix and pulled it down, and cervix was seized by two vulsella. A sound was passed into the bladder to determine its limits. Strong scissors then divided the mucous membrane around the os. The bladder and ureters were separated by the fingers, special care being taken to free thoroughly at the sides. The utero-vesical fold of peritoneum was opened. Then Douglas' pouch was opened and the fore-finger of the left hand passed behind and the thumb in front of the broad ligament, and the uterine artery on each side recognized. A special strong curved needle was passed

up at the front of the broad ligament and pushed through above where the uterine artery was felt, threaded, and withdrawn, and ligature tied. A pair of pressure forceps was applied between the uterus and the ligature and the broad ligament divided with scissors. The fundus was anteverted or retroverted so as to bring the ovaries into view, and the remainder of the broad ligament transfixed and tied in two sections, the ends of the ligatures being left long and brought down through the vagina. The anterior and posterior peritoneal flaps were seized with catch-forceps and brought down. A glass drainage tube was passed into the peritoneal cavity and the vagina plugged; the plugs being removed on the second day.

In two cases the uterus was so large that it could not be removed through the vagina entire. In these cases it had been advised to divide the uterus in half, but he preferred to treat them by the combined method. The patient being in the same position, the operator stands between her legs to make the abdominal incision. The uterus was then drawn up and the broad ligaments tied.

As to the question of clamp and ligature, he preferred ligature, but he thought that in cases where the patient was very exhausted the clamp might be used, as it took a shorter time. He had invented a special clamp for the purpose.

Apex Treatment.—If prolapse of omentum or intestine occurred, he used the speculum; packed the vagina daily, and used douching. He had the bowels open on the third day. He found it necessary to tie catheter in the bladder for at least two days.

As regards the results, cases only were fit for this operation in which the disease was limited to the uterus, and the latter was freely movable.

The advantages of the clamp were that the operation was more rapid. Its disadvantages were that the end projected into the peritoneal cavity and might convey septic matter. That it inevitably led to necrosis of the tissues it grasped. That intestinal obstruction was more frequent after its use, and that the ureters might be caught between its blades. Also, that the weight and discomfort to the patient occasioned by its use were considerable.

As regards silk and catgut for ligatures, he preferred silk for the uterine artery, but for the remainder of the broad ligament catgut might be used. He did not stitch the perineal flaps, but drew them down into the vagina and carefully packed around them.

As regards drainage, he thought that if there was much oozing it was safer to use a glass drainage-tube. If gauze were used, the omentum might be entangled in it and drawn out. Flushing the peritoneum was useful.

The dangers of the operation were sepsis, hemorrhage and injury to ureters. This might be avoided by being careful to thoroughly separate bladder, and by taking care to pass the needle from before backward. Vesico-vaginal fistula might result, or recto-vaginal fistula in vaginal narrow vaginæ. In cases of cauliflower growth he would remove the growth before doing hysterectomy. He did not think it necessary to remove the ovaries and tubes.

Dr. Smyly, of Dublin, had sometimes had occasion to regret having performed the operation when the disease had been too extensive. The principal guides as to the amount of extension of the growth were that the uterus should be mobile and the broad ligaments not invaded by the growth, as shown by examination per rectum. He preferred the method of Dr. Doyen, of Rheims. Both flushing and suturing of the peritoneum were usually unnecessary.

Dr. Heywood Smith, of London, drew attention to the danger of inverting the uterus when the disease was in the cervix, as being likely to infect the peritoneum; and said that ligature was almost impossible when the vagina was narrow. He would use the catheter as little as possible.

Dr. Aust Lawrence, of Bristol, drew attention to the importance of recognizing that cancer in an early stage is curable, and of making an early diagnosis.

Dr. Scharlieb had found the clamp cause much pain and discomfort, and was of opinion that it retarded recovery.

Dr. Jessett, in reply, said that in cases which had extended too far for operation, he would use the curette and pack the cavity with chloride of zinc, which brought away a slough of the diseased tissue.

Dr. More Madden, of Dublin, read a paper "On Primitive and Other Hyperesthetic Conditions of the Vulva and Vagina." The paper was devoted almost entirely to the treatment of these conditions. He advised particularly cleanliness; the use of germicides, as corrosive sublimate, and the application of methylene blue to the parts. He had found this latter do much good, but the disadvantage was the coloration produced, which was difficult to remove. In dyspareunia he advocated forcible stretching under ether.

Hematometra.

Dr. Murphy, of Sunderland, read a paper entitled "Notes of a Case of Hematometra Successfully Treated by Hysterectomy."

Patient, aged forty-two, married; never menstruated; tumor reaching two inches above umbilicus; has been forming some months. On vaginal examination finger passed two inches and was then stopped by a septum, which was found to be the hymen unruptured. No swelling could be felt above this, and no uterus could be made out on rectal examination. The tumor in the abdomen was thought to be ovarian. On opening the abdomen the tumor was found to be uterus distended with menstrual blood and with os occluded.

Menstruation.

Mr. E. T. Collins, of Cardiff, read a paper on "The Nervous Impulses Controlling Menstruation and Uterine Hemorrhage." His observations went to prove that there was a nerve-center, but that its action was reflex

and not automatic, and depended on irritation from the uterus.

Third Day, Friday, August 3.

Separation of the After Coming Head.

Dr. Purslow, of Birmingham, read a paper entitled, "An Account of Four Cases in which Separation of the After-Coming Head had Occurred During Delivery, and of the Means Used to Extract the Head." He narrated the cases: The first three occurred in connection with premature delivery before the sixth month, and the head came off owing to obstruction from a tight cervix. In none of the cases was there any sign of life in the child. One of the heads was extracted by the finger, and the other two by ovum forceps. In the fourth case the child was fully developed, but decomposed, and there was some narrowing of the pelvic brim; the child had presented by the breech, and in endeavoring to extract the head came off and was left in utero.

Dr. Purslow saw the case four hours later, after several attempts had been made to extract by forceps and crochet. He extracted by the cephalotribe after very considerable difficulty, the difficulty arising from the tendency of the blades to slip off, owing to the difficulty of applying them over the center of the head, and from the fact that when they were applied the lock was one and one-half to two inches within the vulva. The patient made an excellent recovery. He reviewed the methods of extraction advocated by ancient and modern authors, and concluded by advising recourse to the cephalotribe as the best means of delivery. Some of the other methods advocated involved bringing the head down in such a position that the jagged protruding ends of the fractured cervical vertebræ were apt to seriously injure the vaginal or uterine wall.

Ectopic Gestation.

Dr. Cullingworth, of London, read a paper "On a Case of Advanced Extra-Uterine Gestation in Which a Living Child was Removed, the Placenta Left Undisturbed, and the Abdominal Wound Entirely Closed." He said that it was sometimes advised in these cases to wait for the death of the child before operating, so as to allow the placental circulation to diminish. It had been advised at the operation to leave the placenta with the cord protruding from the abdominal wound. It had been proposed by Lawson Tait to leave the placento to undergo absorption; the attachment of the placenta at the operation was dangerous, because the attachment of the placenta differed from that found in the uterus, and in ectopic gestation there was no mechanism for arresting hemorrhage when it was detached. That absorption could occur was proved by those cases in which the fetus had died. No operation had been performed and everything, with the exception of the bones, had disappeared.

In his case the child was alive at operation, the opening in the membranes was sutured, and the cord cut short. There was satisfactory progress for three weeks, on the twenty-fourth day a rigor occurred, and on the twenty-sixth day he opened the abdomen. He found purulent fluid in the remains of the amniotic sac, he washed out, but the patient died the same day.

Autopsy.—No suppuration in substance of placenta; child still live and well. In future operations he would allow bleeding from the divided end of the cord, so as to lessen size of placenta; would divide cord quite close to placenta; would remove all the amnion possible, stripping it off from the placental surface, as the sepsis in this case arose from the remains of the amniotic sac; and it would teach him to remove parts not likely to cause hemorrhage in their removal, but likely from their non-vascularity to decompose.

Dr. Aust Lawrence narrated two cases in which he had operated; in one the placenta was absorbed and patient recovered; in the other there was septicemia and death on the twenty-fourth day. He would leave the placenta, and if there were symptoms would reopen the wound.

Dr. Cullingworth, in reply, said he would be on guard for septic symptoms and reopen abdomen at once. It was a difficult matter to decide, in cases in which the fetus had died, how soon afterward to operate. He had operated four weeks after and removed the placenta with perfect ease. Drainage should not be used if any hope were entertained that the placenta would absorb. He would strip off amnion right up to margin of cord and cut the latter off as close as was possible.

Pseudo Ovarian Disease.

Dr. Rabagliati, of Bradford, read a paper on "Some Obscure Ailments which Simulate Ovarian Disease; Their Causes and Treatment." The cases he described were often called ovarian neuralgia. There was pain in ilio-lumbar region, pain in head, menstruation tending to be profuse, slight leucorrhea, and these symptoms persisted for years. On making an examination the tissues were flabby; they were suffering from "diseases of a lax fiber" and deficient nutrition of the affected parts, and the essential cause of these sufferings was rheumatism of the muscle sheaths of the fibers of the abdominal and pelvic muscles.

The affected muscles, especially the rectus, were tender to pressure. On passing the finger into the umbilicus, a slight opening was felt, the edges of which were sharp and very tender. There was tenderness on pressure over the erector spinæ muscle and over the sacro-iliac synchondroses. The pectoral muscles and those at the back of the neck were also tender. The causes of the condition were malnutrition, especially too little nitrogeneous food. The symptoms were not due to hysteria. Treatment consisted in feeding and movements of the muscles under pressure; these latter the patient was instructed to do herself, and photographs were exhibited to show how the movements were performed. Cold baths were also used, and by these means Dr. Rabagliati said he had cured cases for whom removal of the ovaries had been advised.

The Section was then adjourned.

ABSTRACTS

MEDICINE.

Prevention of Tuberculosis.—Dr. George M. Kober, of Fort Bidwell, Cal., in a paper read before the Second Annual Sanitary Convention, held under the auspices of the California State Board of Health, makes a strong plea for the prevention of the spread of tuberculosis in new territories, now being advertised as resorts for consumptives (Virginia *Medical Monthly*). The facts presented in his paper justify the following conclusions, which should be well read by every one interested in the subject:

1. Tuberculosis is an infectious disease caused by a microbe, transmissible to healthy individuals under certain favorable conditions.

2. Inherited and acquired predisposition plays an important role in the invasion and multiplication of the bacilli.

3. The germs may enter the system by the respiratory and alimentary passages, and by the skin and mucous membranes, if there be an abrasion.

4. Whilst the bacillus has been transmitted through the milk, flesh and blood of animals and man, the most common and effective way of distributing the disease is by the dried and pulverized sputum of tuberculous patients. Heller calculates that seven thousand two hundred million of bacilli may be expectorated in a day by a single patient.

5. The habitations of consumptives, as well as their personal effects, unless immediate disinfection has been practiced, are infected houses and objects, and liable to convey the disease to subsequent occupants.

The indications for the prevention of this disease are:

1. Notice by householders and physicians to the health authorities as soon as the disease is recognized.

2. The sputum of consumptives should be received in spitcups containing a 5 per cent solution of carbolic acid, and the contents rendered innocuous by boiling for twenty minutes. The paper and wool boxes made for this purpose should be burned. All public and private buildings should be provided with spittoons. Patients who continue out of doors should use handkerchiefs to receive their expectoration, which, if old, should be burned; at all events, linen, bedding,or clothing thus soiled should not be allowed to dry, but must be thoroughly disinfected, boiled, or steamed, and laws should be enacted against spitting into places where the sputum is liable to infect others.

3. Disinfection of all houses in which tuberculosis has occurred should be made compulsory; also the disinfection of hotel rooms, sleeping car and steamer berths which have been occupied by consumptives.

4. All objects which have come in contact with consumptives should not be given away, sold, or used by others until disinfected by steam under pressure, boiling, fumigation, or a coating with lime or corrosive sublimate solution.

5. Isolation of tuberculous patients is indicated in hospitals, asylums and prisons. In private life, the patient ought to occupy a separate room and bed, use separate eating and cooking utensils, and neither receive nor give kisses, and the family physician should encourage the treatment of such cases in special hospitals.

6. Government inspection of dairies and slaughterhouses and the extermination of bovine tuberculosis are urgently called for. In the absence of such laws, and as an additional precaution, cows' milk should be thoroughly boiled and meats well cooked.

7. A tuberculous mother should not nurse her infant, and great care must be taken in the selection of a wet nurse. Marriages with a tuberculous person should not only be discouraged, but absolutely prohibited by law.

8. Predisposed persons should take special precautions; this is particularly true of those born of tuberculous parents or belonging to consumptive families; those debilitated by privations or excesses, and those suffering or recovering from whooping-cough, measles, small-pox, diabetes and catarrhal affections. Clinical experience teaches that it is quite possible to overcome this predisposition by improving the tone and general nutrition of the system. Apart from medication, careful and methodical gymnastics, attention to the skin and other hygienic rules, will prove of special value. Let us insist on the purity of the air in our houses and towns, and guard against dark, damp and unsanitary habitations.

9. The establishment of sanitary boarding schools in salubrious localities for children predisposed to tuberculosis, in which special attention is paid to their physical culture, appears earnestly called for, and in choosing a subsequent vocation for them, it is important to avoid occupations involving sedentary habits and indoor work, especially in a dusty atmosphere.

10. Last, but not least, the public should be educated that this fatal malady is a communicable disease, how it may be acquired and prevented, and this duty devolves not only upon the medical profession, but also upon the press, State, school and church.

Much mental distress may be engendered by the enforcement of the rules just formulated; but the fact that 15 per cent of the community are victims of this fatal disease would more than justify such enlightened legislation as even the prohibition of marriages with a tuberculous person. Men and women afflicted with a communicable disease are dangerous to society, and it is the duty of the State to take what precautions it can to prevent mischief. Legislators have a right to look to our medical societies and health departments for advice on matters affecting public health, and if a medical body recommends means for the prevention or spread of com-

municable diseases, they should be accepted in a practical sense and embodied in effective laws.

Whilst a conservative spirit should ever animate our profession, we should also possess the courage of our convictions; and yet, there are men eminent in our ranks, whilst not hesitating for a moment to urge the most heroic measures for the prevention of cholera, yel low fever and small pox, absolutely oppose the enforcement of efficient means for preventing the dissemination of consumption, universally admitted to be the most fatal of all communicable diseases. Whilst cholera, yellow fever and small-pox strike terror into a community, because these diseases occur in epidemics and are rapidly fatal, we know that consumption demands more victims than all these diseases combined.

The question of marriage not only involves the pre vention of tuberculosis, but other communicable diseases, and no one knows better than the members of the medical profession what an excess of pain and sorrow, what an ocean of tears and blood, might have been prevented if exemption from communicable diseases in candidates for marriage were as mandatory as the question of age and race for the procurement of a license.

Persistent Urethral Discharges Dependent on Subacute or Chronic Seminal Vesiculitis. — Eugene Fuller, M.D. (*Journal of Cutaneous and Genito-Urinary Diseases*) gives us an extension of this method of treating subacute or chronic seminal vesiculitis from those cases in which it was undertaken for symptoms indicating a disturbance of the sexual function (see *Jour. Cutan. and Gen. Urin. Dis.*, September, 1893) to cases in which he finds urethral discharge persisting in spite of treatment by all the ordinary methods known to specialists in this line, and apparently dependent upon a subacute or chronic seminal vesiculitis; namely, stripping the seminal vesicles (emptying them of their contents) by means of the forefinger introduced into the rectum. In these cases he pays but little attention at the time to the discharge, directing treatment mainly to the vesicles themselves by his method. Most of these cases, probably all, have had gonorrhea, though they do not always ascribe their trouble to that source.

The patients are seen once in every five or seven days, treatment lasts from a month to six weeks in the more favorable cases, to eight or nine months or a year in the most severe, and he advises examinations at intervals of a month for four or six months afterward to make certain that a relapse does not take place. He finds thickening of the vesicular walls and flabby condition of the vesicles themselves.

He presents twenty-two cases, fifteen of which were gonorrheal and were improved or cured by this method, and seven were tubercular, and treatment was not continued, and draws the following conclusions:

1. Seminal vesiculitis is the cause of chronic urethral discharges in a certain percentage of cases.

2. In about one third of these cases the inflammation is tubercular.

3. It is important to differentiate between simple and tubercular seminal vesiculitis because of difference in prognosis and treatment.

4. In the simple cases, prognosis is good unless the subject is of advanced age, the duration of the treatment depending largely on the chronicity of the case.

5. The treatment employed in the simple cases consists of stripping the vesicles, squeezing out into the erethra their inflammatory contents by means of the forefinger introduced into the rectum. This treatment should be employed once in five or seven days; a longer interval should elapse between treatments should acute trouble appear as a result of this.

6. The duration of treatment may be all the way from a month or six weeks to several months or even a year, according to chronicity.

7. At the commencement of treatment the parts are usually tender, indurated and distended, which disappears gradually as resolution takes place. The discharge usually disappears before a cure in the vesicles is attained.

8. In tubercular cases the tenderness in connection with the vesicles is not liable to be so great as, and the induration more than, in simple inflammations, and he advises against this method in these cases.

9. Many of these cases of tubercular origin become quiescent under internal medication and hygienic measures.—*Am. Med.-Surg. Bull.*

The Starting-Points of Tuberculous Diseases in Children.—J. Walter Carr (*Lancet*) presents an interesting paper under this title founded upon the records of 120 necropsies made at the Victoria Hospital, Chelsea, upon children suffering from tuberculous lesions, in no less than 82 of which the disease was more or less generalized. The most important general conclusions are these:

1 That tuberculous disease in children commences usually in the glands, the liability being at its maximum during infancy and early childhood, and rapidly decreasing in later childhood. That caseous glands, especially the internal ones, may (*a*) remain quiescent for an indefinite period; (*b*) start tuberculous mischief in adjacent parts, especially the lungs, by direct extension; and (*c*) set up general miliary tuberculosis.

2. That the internal glands, at any rate, are probably most often infected directly from the organ with which they are connected, although the possibility of infection through the blood-stream must not be forgotten.

3. That tuberculous disease starts much more frequently in the thorax than in the abdomen, and certainly far more often in the thoracic than in the mesenteric glands. This does not throw any doubt upon milk as a possible source of tuberculous disease, but this does not seem to be by any means a frequent mode of infection as compared with that through the lungs. At the

same time the importance attached by Dr. Woodhead, on the basis of his statistics, to the mesenteric glands, indicates the necessity of a further and prolonged investigation of the pathological evidence, not in one place only, but in all parts of the country—for the conditions producing tuberculous disease may vary materially in different localities.

4. That glandular disease may often exist alone and quite unsuspected; in very many cases, doubtless, it is quite impossible of diagnosis.

5. But, after all, by far the most important treatment is the prophylactic. Whether the glands get infected directly through the lymphatic channels or indirectly through the blood-stream, the organisms must in every case have passed in through the mucous membrane, and through a healthy one they probably cannot penetrate.

We have, therefore, to try to prevent gastro intestinal and respiratory catarrhs, and especially to avoid their becoming chronic; to deal promptly with, and if possible to prevent, rickets, the great cause of such catarrhs in early childhood; and to take especial care of children during convalescence from measles, whooping cough, and other acute specific diseases, so liable to depress the vitality of the body generally, and the resistant power of the mucous membranes, as well as the filtering powder of the glands, in particular.

SURGERY.

Treatment of Congenital Dislocation of the Hip.—Dr. Bradford (*Ann. Surg.*) gives his experience with these cases. One case, aged six, he had treated with an ambulatory traction appliance for two years. There was no change in the deformity. In another case, three years old, an attempt at reduction under ether had failed. Of three bilateral cases, the first shows an increased deformity and walks badly, in spite of two years' treatment, embracing recumbency, traction, walking splints and corsets. In the second case, eight years of age, treated for six months by recumbency and traction, and then for four years by a corset pressing on the trochanters, the deformity has not increased and the patient, now sixteen, walks well with little waddling, and her figure has improved. Bradford's third case, aged three years, was treated three years by recumbency and traction, subsequently by ischiatic crutches for two years, and now wears a corset. The patient walks well, the trochanters cannot be pushed up or down, and are one inch above Nelaton's line, instead of one and a half inches as at first.

Bradford has operated on five cases (seven operations) by Hoffa's method. Three of these children had died soon afterward from causes not ascribable to the operation. In the others (one double) it did not appear that the head of the femur was well-fixed in the new acetabulum in either case, or that the patients had been materially benefited by the operations.

Bradford found it difficult to locate exactly the acetabulum, to completely reduce the deformity, and to maintain the reduction.

He pictures the condition found post-mortem in one of the cases he had operated upon, a girl nine years old. The specimen showed clearly, he thought, that the anterior fibers of the capsular ligament, after reduction had been accomplished by flexing and rotating the limb, caused the recurrence of the dislocation, as the limb was extended. It also showed that the curette had been used at a point a considerable distance above the normal acetabulum. The author did not find in any of the four specimens in the Warren Museum, the thickest part of the ilium at the part where it was desirable to deepen the acetabulum. If the strong ileo-femoral capsular bands were divided freely Bradford thinks cases could be operated upon above the age now recommended. He prefers, with Broca, a primary side incision along the trochanter, anterior to Langenbeck's line, and a secondary deeper cross cut on the anterior surface of the capsule near the inter-trochanteric line. He thinks the curette is not necessary in young children, as an acetabulum appears to be present. Mechanical treatment does not cure. Forcible reduction without incision is applicable in but few cases, and is not reliable. Operative reduction offers the best prospects of a cure. At present it involves risks, however, but experience will give more certain results, as there are no inherent difficulties in the way of the operation.—*Am. Medico-Surgical Bulletin.*

Dysentery and Abscess of the Liver.—In the autumn of 1892 Kruse and Pasquale visited Egypt for the purpose of studying the dysentery there prevalent, more particularly as it bears upon the so-called tropical abscess of the liver. The results of their investigation are set forth at length in an exhaustive article in the *Zeitschrift f. Hygiene und Infektionskrankheiten.*

After a review of the work already done as regards the etiology of dysentery they describe the monads and amebæ which are frequently present in the intestine of the Egytians during health, and to which no pathogenic qualities attach. The amebæ thus found by Kruse and Pasquale do not differ morphologically from those found associated with dysentery. The relationship of the ameba coli to one of the forms of dysentery has been so clearly demonstrated by Kartulis and by Councilman and Lafleur that it is not strange that Kruse and Pasquale should have first directed their attention to it. Fifty cases of amebic dysentery were studied. In forty of these the amebæ were found in the stools. In every case examined post-mortem they were found in large number in the ulcers. In all, twenty-six cases, including cases of abscess of the liver, came to autopsy. These were subjected to careful bacteriological examination, as were also about two hundred dysenteric

stools, with the result of finding bacteria of several species in all, but none constantly or under such conditions as to make apparent any etiological relationship between the disease and their presence.

As regards the pathological anatomy of the lesions of amebic dysentery the following may be said: The lesion is essentially a catarrh of the mucous membrane of the colon, which later becomes ulcerative as the re sult of necrosis. The site of the first structural changes is the submucosa, into which the amebæ penetrate in large numbers, causing swelling and edema of the tissue with subsequent necrosis. There is no real inflammation with any considerable growth of the tissue cells or emigration of the formed elements of the blood. The necrosis secondarily extends to the mucosa, and its result is the formation of ulcers. These ulcers, as a rule, have overhanging and swollen edges. The amebæ were always found in the submucosa, never by Kruse and Pasquale in the mucosa. They lay in the interstices of the tissue between the cells and between the connective-tissue fibres. In all cases bacteria were associated with the amebæ in the dysenteric ulcers, and it is suggested by the authors that certain of the structural changes may be the result of their action in association with that of the amebæ. Small hemorrhages in the neighborhood of the ulcers were frequent. The most characteristic feature of the process is, however, the absence of inflammatory exudate, notwithstanding the often large size of the ulcers.

Fifteen cases of abscess of the liver were studied, in six of which a direct connection with dysentery could be made out. These all showed the presence of the ameba in the abscess; the other nine did not. Kartulis, to whom we owe a most exhaustive study of the Egyptian dysentery, found the amebæ chiefly in the walls of the liver abscesses; Kruse and Pasquale found them only in the necrotic material filling the abscess cavity. Bacteria were present in five of the six dysenteric abscesses, in three of the idiopathic abscesses. In four of the eight cases in which bacteria were found they were streptococci. Two anatomical forms of dysenteric abscess of the liver are described, a cirrhotic form and a necrotic form. These are supposed to be in a measure dependent upon the age of the process, the formation of connective tissue in the cirrhotic form being regarded as an indication of healing of the process, since, after the disappearance of the amebæ, the abscesses heal by cicatrization.

Cruse and Pasquale did not succeed in cultivating the amebæ, and they are inclined to doubt the correctness of the culture experiments of Kartulis. They succeeded, however, in producing a lesion in cats somewhat similar to that observed in man, by the injection of feces and abscess contents containing amebæ into the rectum and causing it to be retained there for from twenty-four to forty eight hours. Of sixteen such experiments with feces, eight gave a positive result; of seven in which abscess contents was employed, three were successful in producing the lesion. This consisted of a hemorrhagic catarrh of the lower portion of the colon, often accompanied by slight ulceration. In no case was there such swelling of the submucosa and such extensive ulceration as is observed in man. The amebæ were found in the crypts of Lieberkuhn in immediate proximity to the ulcers and in the tissue composing the floor of the ulcers. thus, though the process in the cat differed somewhat from that in man, there could be no doubt as to the etiological relationship of the amebæ to it. Similar injections with the common amebæ of hay infusions and with the bacteria found in the feces and lesions of dysentery were without result in producing any similar lesions.

In closing, Kruse and Pasquale conclude that there are at least two quite distinct types of dysentery: the amebæ dysentery, which they have studied so carefully, which is especially prevalent in the tropics but occurs also in some parts of this country, in Italy and in Bohemia, and the dysentery of the temperate climates, endemic in central Europe and in the United States and occurring also in epidemics. Of this last, two varieties are made according as the lesion is of a catarrhal or a diphtheritic nature. At present almost nothing is known of the etiology of the latter type.

Six excellent plates accompany this article, showing the structure of the amebæ and their location in the various lesions.—*Amer. Jour of the Med. Sci.*

NOTES AND ITEMS

Alcohol Free of Duty.—The senate tariff bill admits free of duty alcohol to be used in the arts and for medicinal purposes.

Mr. Victor Horsley, of London, has been granted the honorary degree of Doctor of Medicine by the University of Halle, Germany.

The Tri-State Medical Society of Iowa, Illinois and Missouri meets at Jacksonville, Ill., October 2 and 3. Dr. N. S. Davis, Jr., will deliver the address in Medicine.

Dr. William F. Waugh, formerly professor of the practice of medicine in the Medico Chirurgical College of Philadelphia, has been elected to the chair of physiology in the College of Physicians and Surgeons of Chicago.

Dublin, Ireland, lays claim to number among its distinguished citizens the heaviest bicycle rider in the world, in the person of Dr. Meldon, of Merrion Square, who is said to scale three hundred and seventy-eight pounds. The ponderous doctor is also an expert at tennis.

The Mortality from Chloroform is stated by Dr. Gwelt to be fourteen times as great as that from ether anesthesia. His statistics are taken from an analysis of 251,000 cases in the German clinics.

Li Hung Chang seems to be an economical old fellow. At the beginning of the war when it was proposed to organize a medical corps he vetoed the plan. "It will be cheaper to get new mem than to heal the wounded. We can spare a million men if necessary just as well as not and they don't cost much."

Strophanthus is recommended by Dr. Skworzow in the treatment of inebriety. In the few cases in which he has tried it, it was given in seven-drop doses of the tincture. It gave rise to vomiting and profuse diaphoresis and quickly excited a distaste for alcohol which was said to persist after the withdrawal of the drug.

The Toronto Courts have recenty had the question of the contagiousness of consumption before them. A health officer demanded the dismissal from school of a child suffering from phthisis, and his action led to legal proceedings. The judge sustained the action of the health officer, deciding that the disease is contagious.

The Emperor of Austria has granted to the widow of the late Professor Billroth a yearly pension of 2,000 florins. This is to be interpreted as a mark of special favor, because according to the law of Austria the pension allowed to widows of professors is only of 600 florins. As the distinguished surgeon is understood to have left little or no private fortune, the Emperor's grateful act has given general satisfaction.

The Senate Tariff Bill lowers the duty on a number of drugs, that on castor oil being reduced 56 per cent below the rate under the McKinley law, and that on Epsom salts 34 per cent. Other reductions are, 30 per cent on cod liver oil, 50 per cent on bicarbonate of soda, 20 per cent ou sublimed sulphur, 18 per cent on refined camphor and 25 per cent on strchnine. The duty on spectacle lenses is reduced from 60 to 35 per cent ad valorem, a decrease of nearly 42 per cent.

Resuscitation from Asphyxia.—It may be useful to familiarize one's self with Dr. Laborde's method of restoring the respiratory reflex. It is so simple—using an ordinary tongue forceps, such as is on hand during chloroform or ether inhalation, the tongue is well pulled forwards and regular rhythmical movements are given to it—that it is proposed to issue some plain directions that can be posted in every hospital and be in the hands of every midwife, or any one who may be liable to see asphyxia, such as those who give anesthetics and those called to cases of drowning, etc. It has been tried a great deal in France in the last two years in all sorts of cases of asphyxia, by drowning, electric shock, lightning stroke and in the cases of apparent death in the newly-born. Some sixty-three cases are given where patients were recalled to life by this method.

The Late Congress at Rome.—The *Lancet* for August 4 points out the fact that an unusually artistic set of photographs has been prepared by a Roman artist, Cardilli, not only of the nineteen Sections of the Congress, but of the principal speakers in the open conferences. The *Lancet* specifies the portraiture of Virchow, of Koch, of Pasteur, of Lombroso and of President Bacelli himself as being very successful in depicting the features and characteristic expression of those leaders of modern medicine. Dr. Bacelli has been presented with a "first copy" of the album, or collection of photographs, and has expressed his approbation thereof and his hope that the fine work shall have as wide a diffusion as possible. The name of the artist is Giovanni Cardilli. The cost of the album to intending purchasers in not mentioned in the *Lancet* article.—*Jour. of the Amer. Med. Ass'n.*

Cauterizing Ovaries Instead of Removal of Them.—Dr. Pozzi, at Hopital Broca, has now practiced cauterization of painful ovaries for over two years, and considers the plan very successful. In one case, in which he operated upon both ovaries, the woman has since given birth to a child. He performs his laparotomies in the ordinary recumbent position; draws the ovaries out of the abdominal opening. If the ovary is totally diseased he removes it; but if a part is found to be healthy, he amputates the affected portion, cauterizes the stump, then sews the end with silk. If there are some small cysts, he opens them by touching with the Paquelin point. The ovary being returned to the abdomen, he examines and treats the other in a similar manner. Often as many as six small cysts are opened in this way in each ovary.—Paris Correspondent *Therapeutic Gazette.*

Quackery is Rampant in Paris, though, perhaps, they have not as many faith healers and itinerant impostors as we have in America; yet there is a larger proportion of regularly educated physicians who, weary of the restraints imposed by the regular profession, boldly announce their wares through every sort of advertising medium. And why should they not, when the venerable scientist, Brown-Sequard, is the greatest sinner of them all? Everywhere, on lamp-rosts, in urinals, in railway stations, and in the most out-of-the-way places along railroad lines, in every direction, one will see large banner posters advertising the "*Suc de Brown-Sequard; tres precieux,*" etc., for nervousness, diminished sexual power in men or women, old or young.—*Med. and Surg. Rep.*

HOME SEEKERS' EXCURSIONS.—On September 11th and 25th, and October 9th, the Burlington Route will sell excursion tickets to all points in the Northwest, West and Southwest, at one fare for the round trip, plus $2.00.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Dose of Tuberculin.

BY GEO. W. KINNELL, M.R.C.V.S., PITTSFIELD, MASS., U.S.A.

To the large amount of evidence already accumulated I wish to add my testimony as to the great value of tuberculin as a diagnostic agent in the detection of bovine tuberculosis.

But in the matter of dose my experience has differed radically from that of any other observer either in Europe or America. I take the liberty of going somewhat into details.

So far as I can ascertain the dose ordinarily used in this country and in Europe is from three to six minims for a mature cow. The largest dose I use for a mature cow is two thirds of a minim, and frequently only half a minim. For creatures about a year old I use one-third of a minim.

What has been the results?

Take the first herd in which I used tuberculin. This herd belonging to Mr. F. W. Milton, of Pittsfield, Mass., comprised sixty animals, mostly Durhams. The herd had been tuberculous for at least the last six years.

From October, 1893, to February 6, 1894, this herd had by the ordinary weeding out process been reduced to nineteen, forty-one animals having been slaughtered. Of these forty-one, thirty-nine were found tuberculous while two were healthy. This was ascertained by post-mortem examination.

On February 6, 1894, I tested the remaining nineteen with tuberculin, using doses varying from one-third to two-thirds of a minim. Ten of the animals gave a reaction indicative of tuberculosis and were slaughtered, and post-mortem examination revealed in every case the lesions of tuberculosis. These lesions varied from the earliest to the most advanced. Some of the cows had only one or two small caseous nodules the size of a hazel-nut or a walnut, while others had lungs which were simply a mass of tubercular caseation and suppuration.

Of the remaining nine animals which I passed as being healthy, six have since been killed and sold for beef. So far as macroscopic post-mortem examination could detect, every one of the six animals were free from tuberculosis.

This was my first experience with tuberculin. Since then I have tested a number of herds large and small, the individuals comprising a total of 161. In a number of these herds tuberculosis was known to exist, while in others the test was applied merely as a precautionary measure. Of these 161 cows and bulls, twenty-seven have given a reaction indicative of tuberculosis. Of these twenty-seven, twenty have so far been killed, and in every case post-mortem examination has revealed the presence of tuberculosis. As in my first herd, the lesions have varied from the earliest that can be recognized macroscopically, to the latest, where the animal was on the verge of dissolution.

But here is what I consider the most interesting part of my experience with tuberculin.

On April 2, 1894, I had occasion to test eleven cows, the remainder of a herd that had been tested last January with the ordinary large dose of from three to six minims. This original test was conducted by a veterinarian of considerable experience, and I have no reason to think it was not carefully carried out. He got a reaction in a number of the animals and condemned them. They were killed, and post-mortem examination confirmed the correctness of his diagnosis. But from eleven of the animals he failed to get the usual reaction, and consequently passed them as being all right. These eleven animals I tested with my small dose last April, and of the eleven four gave a reaction indicative of the disease. They were killed two days later and the following is what I found:

FIRST COW.—Both lungs diseased almost throughout their entire extent, containing caseous masses and suppurating cavities varying in size from a hazel-nut to a child's head. The mediastinal lymphatic gland partly suppurating and partly caseous, and so much enlarged that it was thirteen inches long and as thick as my arm. Bronchial and cardiac lymphatic glands correspondingly diseased and enlarged; lesions on the pleuræ also. This cow had been sterile for two years.

SECOND COW.—In right lung an old-standing tubercular mass as large as my two fists, with semi-liquid contents and tough calcareous walls.

THIRD COW.—In right lung tubercular abscesses of moderate size, with thick fibrous walls and caseous contents.

FOURTH COW.—At upper border of right lung one tubercular caseous nodule about the size of a small walnut. I thought this last case might have developed subsequent to the first test.

What can we learn from this? Must we say that the original test while not giving a reaction yet affected the animals' systems in such a way as to render them susceptible to the second test; or rather should we not say that a small dose is much more reliable than a large one, and will give a reaction and a definite result when a large dose will prove merely negative?

My experience with tuberculin then leads me to the following conclusions:

1. That the dose ordinarily used is unnecessarily large.

2. That a dose of two-thirds of a minim is at least sufficient.

3. That a small dose may be much more reliable than a large one, as giving a reaction when a large dose will be negative.

The tuberculin I use is the tuberculinum Kochii of Dr. Libbertz, and is imported by Messrs. Schultze, Berge and Koechl, of New York. The rule I ordinarily go by is that a rise of two degrees indicates tuberculosis.

The highest reaction I ever obtained (a rise of six and two-fifths degrees) was in a cow which had no lung lesions whatever, but whose spleen was the seat of extensive tubercular change. I have reason to believe she was affected through the drinking water. She stood in a row with nineteen others. They drank from a trough which went the whole length of the barn, the water being admitted at the right end as you stand looking at the animals from behind. In the second stall from the right end stood a cow which must have been diseased between two and three years. To the left of this cow four of the eighteen animals were diseased, but in none of them was the disease of nearly such great extent or such long standing. The cow with the diseased spleen, and which gave such a high reaction, was the fifteenth from the worst diseased cow.

The following is my prescription, say for nine animals:

℞ Tuberculin six minims; one per cent sol. carbolic acid in distilled water eighty-four minims.

Sig. Dose for adult cow ten minims.

Dropped Shoulder.

Under this term is recognized a condition of the horse's fore-leg which supervenes upon a fall, a slip or other injury. I have seen it follow a fall into a sand-pit, and I have met with it in horses said not to have fallen, slipped or been injured. The most common cause in my experience has been a slip upon wood pavement. The symptoms are great lameness—almost inability to move the limb. Whilst at rest the foot is placed forward, the knee flexed, the elbow suspended six or eight inches below its proper level, and the humerus assumes a direction nearly perpendicular. These symptoms suggest at once that the fault lies with the muscles which flex the humerus upon the scapula, or which maintain it in normal position. There is no displacement of any bone at the joints. Each joint may be moved easily enough, and if the foot be drawn back to its place, at the same time that the knee is forcibly straightened, the elbow rises to its proper position. It would be more graphically described as "dropped elbow" but there is no disease or injury of the elbow—the malposition of the limb from the humerus downwards being due to the muscular inability to maintain the necessary relative position of that bone to the scapula. Post-mortem examination sometimes discloses a fractured first rib, sometimes only a wasted and pallid condition of the *triceps extensor brachii*. How the fracture of a first-rib causes this condition I confess I do not know. Possibly some injury to the nerves supplying the muscles is the explanation. The wasting of the *triceps* muscles may be looked upon as either cause or effect, and I favor the view that it is the latter, being due to their over extension as the result of the limb hanging on them and stretching them.

Some of these cases remain for months before recovery takes place, some never recover, but the most curious and inexplicable are those that recover suddenly. Two such cases I have noticed and they lead me to write this confession of ignorance. I want to know how they are to be explained. The two cases are very similar.

The first was an omnibus horse that fell lame on his journey and had to be brought home in a float. He was was put in slings and the shoulder treated with warm fomentation. No improvement was made, and in four weeks, time he was taken out of the slings. A mild blister was applied to the triceps muscle with no marked effect upon the lameness. He was kept in a loose box, and when standing always maintained the same posture—foot forward, knee bent and elbow hanging six or eight inches below its proper level. No more weight was sustained by the limb than if the humerus had been fractured. On calling one day and looking over the box door I was astonished to see the horse standing level on both fore feet, and capable of moving without great effort. On drawing the horse-keeper's attention he told me that the animal had lain down and after a struggle had risen with power to stand on the limb.

The second case was shown me by Mr. Wooff, of Greenwich. It had remained powerless for weeks and then was found one morning able to stand on the limb.

The suddenness of recovery is inexplicable. It seems as if some displacement had suddenly been reduced by an effort or struggle of the animal. The cure is not complete. The horse which has for weeks been unable to put weight on the limb recovers the power to stand, but movement is accompanied by lameness for some further time. The weight thrown on the leg by progression is not completely supported. At each step the shoulder gives, and it is evident that the triceps muscle yields, and is not quite able to keep the radius in firm relative position to the humerus.

Something alters suddenly. The leg which had been bent and incapable of supporting the least weight, suddenly resumes the power of sustaining some weight, and is capable of maintaining a normal straightness—the knee is kept extended, and the elbow retains its proper level.

What was the lesion and how was the recovery effected? I confess I cannot explain, and should be glad of any assistance other practitioners may be able to contribute. These cases recover, and no post-mortem is obtained to clear up the enigma. Is the condition entirely muscular, and if so, why the sudden alteration?—W. H., in *Veterinary Record.*

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ORIGINAL ARTICLES

Multiple Tubercular Osteomyelitis Following the Extraction of a Tooth.

BY L T. RIESMEYER, M.D, ST. LOUIS.

E. B, a mulatto girl, aged 19, had the necrotic stump of a molar tooth of the right lower jaw removed by a dentist in the fall of 1886, until which time she claimed to have always been healthy. After the extraction of the tooth her lower jaw became painful and swollen and in a few days the pain got so intense that she had to remain in bed. She also had rigors and a high fever. An abscess formed, which broke open, a fistulous tract remaining at the lower border of the body of the jaw, near the angle, the pain now gradually subsiding. A surgeon removed some time after this a sequestrum; but an inflammatory process remained in the bone so that several other fistulous tracts formed. About a year ago the left elbow-joint became very painful and swollen, and the patient had a high fever; here, too, a fistulous tract formed, discharging pus. About the same time the left malleolus externus became painful, which the patient attributed to a sprain of the ankle.

On June 28, 1889, I was called to see the patient for the first time. On examination of the jaw I noticed several cicatrices at the lower border of its body. One fistulous tract near the angle, and another under the chin about an inch and a half to the right of the median line. There was a diffuse swelling of the jaw and a profuse suppuration; the pus emptying itself into the cavity of the mouth as well as through the fistulæ leading to the surface of the skin; the whole condition made the impression of long-continued necrosis and suppuration. The patient was sitting in a rocking chair, the left hand in her lap and supported by her right hand, the forearm resting in a supine position upon her left thigh. The elbow-joint was very much swollen, spindle-shaped, and of the same succulent consistency as the diseased jaw. The opening of a fistulous tract suppurating profusely was situated over the internal condyle of the humerus, an ulcer of the size of a silver dollar covered with fungous granulations, margins undermined over the olecranon process. The arm caused a great deal of pain so that the patient could not lie in bed on account of it, but was sitting in the rocking chair in order to relieve the pain by supporting her arm in the related position.

Over the external condyle of the humerus of the other arm was situated a fluctuating swelling of the size of a hazelnut; tender to the touch; the surface temperature not materially increased; the elbow joint not painful upon flexion, extension, pro and supination; a cubital gland enlarged about the size of a pea; in the axilla no enlarged glands noticeable.

The left ankle-joint was painful, edematous and over the external malleolus was situated an elastic swelling of the size of a silver half dollar, painful on pressure; flexion and extension of the foot also painful.

Another swelling, of the size a hazelnut, fluctuating and a little tender upon pressure, was situated over the right scapulo clavicular articulation.

Over the smooth surface at the internal extremity of the spinous process of the right scapula a fluctuating swelling, of the size of a hen's egg, at times quite painful.

A diffuse oval swelling, about four inches long and three inches wide, protruding at its center about an inch from the surface of the body, and having the consistency of fatty tissue, situated over the ribs on the left side of the thorax, patient claims to have noticed a short time after the lower jaw became diseased and was at that time, according to her statement, much larger, but never caused her any pain.

When a child she had enlarged cervical glands which, according to her description, must have been located at the posterior border of the sterno-cleido mastoideus. But since her fifteenth year they disappeared. She never had ulcers about the genitals, or in her throat, nor an eruption of the skin, no headaches. She ceased to menstruate shortly after the lower jaw became diseased. Her family is healthy. Her father died of a pleuritis when fifty years of age; her mother is forty-eight years old and has always been healthy; she is, however, as well as one of the patient's sisters, very nervous and hysterical.

When I first called upon the patient and during the time before she was operated, her temperature varied between 102° and 104° F.; pulse 140, very small and irregular. The rapidity and irregularity of the pulse

was to some extent probably due to her extreme nervousness. She had, however, mitral regurgitation and dilatation of right ventricle. No cough, urine contained neither albumen, nor sugar, nor casts. Patient very weak and emaciated.

An examination of the wounds with the probe patient objected to absolutely, so that this had to be postponed until she would consent to be operated. I could already then, however, say so much, that a resection of the elbow-joint, eventually amputation of the arm, resection of the whole right half of the lower jaw and a complete removal of all diseased tissue in the other foci would be necessary.

In the meantime stimulants, nourishing food, ventilation of the room, cleansing of the wound with a one and a half per cent solution of carbolic acid, antiseptic dressings and a mouth-wash of permanganate of potassium were ordered.

On July 9, 1889, having obtained the patient's consent to do what I considered proper, she was anesthetized, chloroform being selected as the anesthetic, in order to remove the most dangerous focus at the left elbow-joint. The probe touched necrosed bone everywhere and I began to resect the joint after Langenbeck's method. Drs. L. P. Pollmann and H. A. L. Rohlfing had the kindness to assist in the operation. The destruction of the tissue was enormous. The olecranon broke to pieces upon slight pressure with the elevator, the caries extending three inches from the upper extremity of the olecranon downwards. Also the humerus was carious to the extent of an inch and a half, the radius was intact. All the muscular attachments were destroyed and replaced by fungous granulations. The diseased parts had the appearance of a granulating tubercular synovitis.

A resection was here, as a matter of course, out of the question, and I amputated under antiseptic precautions about an inch and a half above the diseased tissue. The wound healed by first intention. A strip of sublimate gauze, which had been introduced into the medullary canal in order to check the bleeding, was on its removal on the third day penetrated with blood, and after its removal the remaining opening closed promptly without the formation of pus.

After the patient rallied from the shock caused by the operation, her general condition improved decidedly. Her appetite and strength increased, and the temperature, which was normal a few hours after the operation, remained so for eight or ten days. Afterwards the temperature varied between 99° and 101°, and sometimes 102°, which, of course, was due to the other foci, especially the jaw.

When, on October 3, the second operation, the resection of the inferior maxilla, was done, the patient was in a much better condition than at the first operation, but the last ten or twelve days she complained of headache and loss of appetite and the temperature varied between 101° and 102°, the swelling of the jaw extended further up, involving the right eye. Drs. L. P. Pollmann, A. M. Bierwirth and H. A. L. Rohlfing kindly assisted me.

I made the usual incision, beginning one centimeter below the ear and carrying it along the lower border of the jaw to about a centimeter over the median line. Since the mucous membrane of the mouth was broken through by the suppurative process, we allowed the head of the patient to hang down over the edge of the table very soon after the first incision, in order to keep the blood from getting into the trachea. Four large and several small sequestra were removed. In the median line the bone was sawed through, thereby being able to operate in healthy tissue. The diseased soft parts were removed with curette and scissors and the skin of the fistulous tracts trimmed and sewed together. Suture, drainage and antiseptic dressing.

The mucous membrane was destroyed to such an extent that it was impossible to bring its edges in close apposition. In two places suppuration occurred, but two or three weeks after the operation everything had healed. About four weeks after the operation a small abscess formed at the chin near the suture, leaving for several weeks a fistulous tract, which then closed. On October 30 I removed, with the assistance of Drs. Bierwirth and Rohlfing, the malleolus externus and the external condyle of the humerus. We found no pus about the malleolus, but fungous granulations and a white mass presenting the appearance of slaked lime. The malleolus was carious and its periosteum completely destroyed. Suture and drainage with a tampon of sublimate gauze. Splint.

At the external condyle of the humerus, where the fluctuating swelling had now reached the size of a filbert, was found caries, fungus and pus. The soft parts surrounding the joint were undermined to the extent of two and a half inches. Chiseling off of the condyle, suture, drainage and splint. Both wounds healed without any inflammatory reaction, there was never any pus when the dressings were changed. The wound at the external condyle was entirely closed in three weeks, while that at the malleolus, where there was a great loss of substance to fill up, was closed entirely seven weeks after the operation.

When I examined the foci, which were not yet operated, about the middle of November, I found that the swelling over the acromio-clavicular articulation had disappeared completely; that over the spine of the scapula had retained its size, but patient no longer complained about it. At the end of December I removed a little sanguino-purulent matter from it with the aspirator. The patient objected to having this place operated since it did not trouble her and she had no subjective symptoms of any kind. Her general health was very much improved and, although she had a very rapid heart's action, her pulse being 120 to 130 a minute and her temperature 100° F.; she said she felt well and had a good appetite.

The malleolus was still tender upon pressure but she

was able to walk without any weakness about the ankle.

Later on, however, I noticed unmistakable signs of tuberculosis of the lungs, tubercle bacilli being detected in the sputum, and the patient succumbed in the latter part of November, 1890.

In all probability the numerous inflammatory foci were due to a mixed infection, for a great many single cocci and some staphylococci were found in the pus and the masses of fungous tissues that had been scraped out, and the primary infection must have taken place, in all probability, in the wound due to the extraction of the tooth.

Of interest is also the fact that all the inflammatory metastatic foci of the bones were located at the epiphyseal extremities. This may be explained by the fact that at the epiphyses the growth of bone is most active, small arteries enter large capillaries, whereby the circulation is retarded and absorption made less active.

Professional Secrecy in Belgium.—The *Gazette Medicale de Paris* states that a judicial decision given in Brussels is to the effect that a physician is never obliged, except in cases where the law expressly orders to the contrary, to reveal secrets confided to him in his professional capacity, even if the person who intrusted them to him consents to their being laid before a court.

The Specific Gravity of the Urine of the Insane.—After reviewing the labors of several alienists on this point and the variance in their results, Dr. Umberto Stefani, of Padova, made a careful investigation, and studied for one or more months sixty cases of mental diseases, with the following results: In all cases of acute insanity, independent of special forms, the specific gravity ranged from 1030 to 1040, and sometimes higher. If the form is of short duration, the specific gravity will fall as the psychic symptoms diminish, until it reaches the normal, or even lower. When the remission of the psychic symptoms is followed by an exacerbation, the specific gravity of the urine will again increase.

If the course of the disease is long and tends to become chronic, the density of the urine ordinarily will, after a time, commence to diminish until it reaches normal or falls below. In cases of imbecility, paranoia, senile dementia and paresis without spells of excitement, the specific gravity of the urine is not increased. But if continued, frenzy and excitement develop, the specific gravity will increase to 1030–1040.

The writer throws out the suggestion that, in the examination of the urine, we have an index, probably, of the prognosis and course of the disease. A table of charts, showing the exacerbations and remissions, adds to the interest of the paper.—*Rivista Sperimentale di Freniatria edi Medicina Legale* (Buffalo *Med. and Surg. Jour.*).

EDITORIALS

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Report From the Seat of War.

It is not the war in the East, but the medical combat which is raging in St. Louis. Rash and uncalled-for surgery and multiplicity and cheapness of medical colleges are the issues. The chief scene of the war is the newspaper. Since Dr. Thomas O'Reilly and Chancellor Chaplin fired their guns on the Fort Sumpter of medical rottenness, there is no end of communications to the daily papers on the subject and opinions are more or less freely and more or less emphatically expressed.

There are two views, diametrically opposite, on the two questions, which in the course of events have been consolidated into one. To the "progressive" professors the outlook is bright and promising; to the outsider, especially the general practitioner, the future of the medical profession looks gloomy and the present situation is far from being satisfactory. "Cheap colleges," they reason, "necessarily produce cheap doctors, and to smooth the roads of access to an already overcrowded profession, by ridiculously low tuition fees, is to invite inferiorities to crowd in." To many it looks queer, moreover, to offer reduced rates to relatives of doctors

and clergymen. The unsophisticated observer naturally asks: Why this discrimination?

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The most extraordinary phenomenon about the new colleges, the "progressive" ones, is the great number of students, which crowd into them, as soon as opened. Of the twenty five or thirty, or more professors and instructors of the newly formed school, there are, perhaps, two or three, whose names are known to the profession at large, and who have experience as teachers in the various branches of medicine. The balance is raw material, young men full of ambition, and even willing to work, but of extremely doubtful qualification. It has even happened, that full fledged professors developed from recent graduates.

***

Everybody who is at all conversant with medical affairs, is aware of this fact. Doctors have been commenting on it for years, mostly in a jocular way. Of late, however, a gentleman, connected with one of the educational institutions of this city, had the courage (or indiscretion ?) to speak vigorously of the existing evils, and a storm of indignation arose. Chancellor Chaplin was made the butt of invectives by "progressive" professors, but also by editors of the daily papers, whose local patriotism was wounded by his attack on one of the chief industries of St. Louis, viz, the industry of manufacturing doctors.

All the "progressive" schools have been heard from on this subject, through one of their professors. With rare unanimity they condemn Mr. Chaplin, accuse him of Eastern sectionalism and unwarranted contempt for Western ideas. The conventional comparison of the home critic to the bird that befouls its own nest has also been made in more or less direct language. Cant in religion and social matters is a well established institution, cant in medical matters is equally approbious. There is a good deal of phariseeism in St. Louis. Medical pharisees pooled their issues and the result was the mushroom colleges. But the day will come, when the essenes will triumph and the cheap shops be snowed under.

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There afe three medical schools in this city which have not been heard from in this controversy; they are, in alphabetical order, the Beaumont, Missouri and St. Louis Colleges. The denunciatory articles above alluded to came from representatives of other schools. The inference is easy to be drawn. The professors of the older schools evidently did not feel as if their corns had been trod upon, when Chancellor Chaplin's address was published. It is with colleges as a rule, as it is with wine; they improve with age. Braggadaccio and adroitness in the catching of students cannot take the place of merit and experience in the methods of medical instruction.

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Whenever the subject of higher medical education is discussed, especially in the daily press, a certain class of "professors" are sure to come to the front claiming that they always have been in favor of a higher standard, and that the particular college to which they belong has strongly insisted on rigorous preliminary and final examinations. These same advocates of medical reforms even go so far as to be willing to throw up the precious privilege of creating new doctors by conferring on them diplomas. State, or even Federal examining boards have been suggested as remedies for the existing evil of diploma mills. Strangely enough, those who run the concerns most notorious for the indifference with which they matriculate illiterates, clamor most vociferously for the abolition of the diploma conferring powers of the colleges. They know that they do not have much to lose, having no reputation except that gained by profuse advertising and by claims of capabilities which have not yet been demonstrated. Of course, State, or still better, Federal examining boards would be, in theory at least, superior to the present system. The only danger lies in this, that the enterprising and pushing coterie of cheap schools would, through political influence, instead of merit, control or even constitute the State boards. For the adhesiveness of these worthies for the purpose of concerted action is something phenomenal.

The Reward of Reform in Hygiene.

Ever since the office of a health officer has been established in St Louis there is no man who has filled it more ably and satisfactorily and with more honor to the medical profession, of which he is a member, than Dr. Geo. Homan. His appointment, though he was a Democrat, was one of the most commendable acts of Mayor Walbridge, whose honesty of purpose and whose political tact form such strong and salutary contrast to his predecessor in office. It is the first time, since the creation of this office, that a man, fully equipped with the necessary information on all the branches of public hygiene, has filled this important office. With few exceptions, men who had not the slightest calling or qualification for such an important place, had filled it promiscuously without any regard to the character or attainments of the incumbent, just as the whim and political or personal likes or dislikes of the powers that "be" would dictate. The present mayor's disinterested and humane act of appointing a thoroughly qualified and able man, who enjoys an undisputed national reputation as a public hygienist and who through numerous and able articles, has demonstrated his thorough familiarity with a branch which he represents in office, has borne ample fruit already. A great many reforms have been introduced in the service of the office and the weekly mortuary reports, as they are gotten up now, show the hand and brain of the experienced hygienist. Whilst there is only one voice in regard to Dr. Homan's efficiency as a health officer among the medical profession, at all events the reputable part of it, he has incurred

the displeasure of some of the daily papers on account of a ruling introduced to prohibit the publication of the reports of hospital cases in the papers. Every right thinking physician and, for that matter, any levelheaded readers, must have felt disgusted at the brazen manner in which the cases, either medical or surgical, of some of the unfortunates, that have to seek aid in the public medical institutions, are described and commented on with hideous details in the daily press. This tendency to indulge in pathological journalism has been considerably aided and abetted by some of the doctors, filling city offices. Dr. Homan, actuated by the proper sense of justice and decency, has by his ruling tried to put a stop to these *disgraceful* and *heartless* procedures.

This step is certainly endorsed by every right thinking member of the medical profession. Not so, however, by the daily press, who have tried to ridicule and even threatened the doctor with early removal from office, for having the audacity of interfering with the reporters and editors, whose present desire it seems to be to outdo each other in minute and exaggerated reports of cases treated at the city hospital. There was a time when the experience gained from the material of this institution was published in medical journals for the benefit of Doctors. Things are reversed now. It is to the public exclusively, through the medium of the daily press, to whom these reports are given. The course, adopted by Dr. Homan, naturally displeases the editors of the daily papers; one of them, the *Globe Democrat*, has been specially venomous in his attacks on Dr. Homan for his attempt to abolish the existing nuisance. Even short editorials have been devoted to the doctor, predicting with the air of infallibility the date of his removal from office, and counting, in its would-be humorous but somewhat threadbare fashion, the number of months left to the present incumbent. We have no doubt, however, that the well nigh unanimous support of the medical profession, who are supposed to be competent judges in such matters, will insure the prompt reappointment and continuance in office of such an able man as Dr. Geo. Homan. When the welfare of hundreds of thousands is at stake, mistaken ideas about the omnipotence of the press and its relation to medicine in general and report of hospital cases in particular, ought to be promptly refuted.

Pain in Animals.

Professor Penberthy, at the twelfth meeting of the National Veterinary Association held this year in London, read a very thoughtful essay on Pain; Its Indications and Significance in the Domesticated Animals (*Brit. Med. Jour.*). He first considered the true meaning of the word "pain," and the relation of painful and like stimuli to action. In man, the sense and variety of whose nervous energies are so wonderful, the stimulus of sensations of pain or apprehension has consequences out of all relation to those in lower animals. We cannot therefore measure the effects of pain in lower animals by the standard of man. Stimuli which cause intellectual agitation in man are incomparably more painful than those which in animals result simply in motion, as in the flight of a hare for example, though a superficial observer may regard the latter as more pitiable. "It is as natural for a fox to run before his enemies, and to exercise all the faculties necessary to escape, as it is for a man to go to his home and lock his door at night." Intensity or amount of pain depend, the writer adds, upon the power of realization of ideas presentative and representative; this intensity is therefore incomparably higher in man than in animals, in whom the same material of mind does not even exist. "It would indeed prove a source of the most horrible contemplation to admit that the lower animals have the same sense of pain as highly civilized man." Professor Penberthy goes on to show that without pain to lower animals, and to men also, there could be no advance in civilization: "the cost must be animal and human suffering." To say that a knowledge of physiology is not essential to the prevention and treatment of disease is absurd; and it is equally absurd to point to individual experiments as useless "because their value is not patent to certain men and women of limited minds and education." If it be urged that experiment on animals leads to no direct knowledge of man, Professor Penberthy well says that veterinarians, though challenging the statement of course, are not concerned to give any answer to it. The essay is a singularly thoughtful, temperate and broad-minded contribution to a very important and trying subject, and one which is highly honorable to the veterinary profession of the day.

MEDICAL SOCIETIES

St. Louis Obstetrical and Gynecological Society.

Regular Meeting, Thursday Evening, May 17, 1894.

Fibroid Tumor of the Uterus.

BY E. C. GEHRUNG, M.D., ST. LOUIS.

MR PRESIDENT.—I herewith present to you a Fibroid Tumor of the Uterus, which I removed April 25. The patient, aged 46 years, twice married, never pregnant; was sent to me from Texas by her brother in law, Dr. L I had examined her in August, 1893, during a short visit to this city, and found a peritoneal fibroid superimposed by a smaller tumor on the right side, which latter I took for a tumor of the right ovary. She wrote to me soon after her return home that she had had a considerable discharge from the vagina, and that the

tumor had almost disappeared. This phenomenon repeated itself several times, until she discovered that not only the tumor had not disappeared but that it was increasing in size. She had, of course, only deceived herself, her relatives and myself in the cherished hope that I had made a mistake in the diagnosis, and the tumor was getting well of itself.

On her return in April, 1894, I found a large fibroid, more or less irregular in outline, reaching about two inches above the umbilicus and firmly wedged in the true pelvis. The uterus apparently forming a part of the tumor, as it could not be separately outlined. The cavity was not much increased in depth. On the right side at a point between the umbilicus and the anterior superior spine of the ilium was a partly movable tumor about as large as a good sized fist. As stated before, this mass including the uterus was firmly and immovably packed in and almost filled the small pelvis, while the vulva projected as if propelled by the advancing child's head. The menstruations came more frequently, lasted much longer than formerly and were much more profuse.

I commenced the operation under the impression that nothing less than a hystero myomectomy would suffice.

Operation.—Assisted by Drs. Outten, Funkhouser, Smith, Jr., Newman and Mayfield, I made an incision from the umbilicus to near the pelvic symphysis, but nothing presented itself but that smaller tumor described before and which was a fibroid in the shape of a large pear and served as a fine handle to the tumor. The tumor itself reached above the incision and could not be moved before this was prolongek to about two inches above the umbilicus. After freeing the tumor from a few adhesions and after turning it out of the abdominal cavity, it was noticed that the capsule was not very vascular and after a short consultation, it was resolved that an enucleation be attempted. The capsule was very thick, more than a quarter of an inch, and so firmly adherent to tumor that the strength of my fingers barely sufficed to effect the separation, whereby the cyst was torn in many shreds. The pear-shaped tumor and five others of the size of a small chicken egg had to be amputated before the cyst could be removed. The bleeding shreds were tied and cut off as the operation progressed and the tumor was finally severed from the womb, the pedicle was tied and cut off with scissors. Considerable venous oozing was observed but no hemorrhage. After flushing the abdomen with hot water, the shreds were placed over the stump and the cavity filled with a Micuticz dressing and the balance of the wound closed. The upper one third of the wound having been closed immediately after turning the tumor out of the abdomen, the dressing of the stump would have been more carefully executed, but the patient began to show signs of collapse under the anesthetic, the operation having lasted one hour and a half.

As you see the tumor consists of three large globular bodies of the size of large oranges, the uterus having represented a fourth one, all bound into one solid tumor by a strong fibrous tissue. On the outside of this mass, protruding through the cyst and covered by it, were those six tumors already described and quite a number of smaller ones, the ovaries and tubes were more or less flattened out on the cyst wall and adherent to it, and quite a number of smaller tumors as you may see here were disseminated on the wall of the tubes, the broad and round ligaments. Part of the left round ligament, containing a fibroid the size of a pecan-nut, as you see here, I had to excise.

Now, twenty two days after the operation, the patient is doing very well, the wound is healed except a small place in the lower angle, were the drainage tube was. [Two months after the operation the patient feels well, and is well in every respect.]

This brings me now to the important point, the cause why I reported this case.

The patient's life was not yet threatened by the size of the tumor. Life was not in any way unbearable.

Why then, did I operate; I who claim to be on the conservative side?

Because the tumor infringed on the small pelvis and was immovably fixed there. It compressed the bladder and the rectum, and made the vulva bulge outward. I make it the rule that whenever I find a fibroid tumor immovably fixed in the small pelvis to operate. While on the contrary, when the tumor is freely floating in the abdominal cavity or can be so placed, that there is at least no hurry and that palliative measures may be tried, like elevation by pessaries and electricity. I have found by ample experience that tumors when so placed and so treated, unless of a malignant type, make very slow progress if any, or at times disappear entirely.

My experience has also taught me that tumors grow more rapidly when their circulation is impeded and their growth resisted. The impediment to the venous circulation and the resistance offered to the development both seem to irritate the growth and stimulate it to greater energy.

Discussion.

Dr Gregory.—Have you any microscopic account of the tumor?

Dr. Gehrung.—No, sir, no microscopic examination has been made yet. (Microscopic examination of the tumor by Dr. Rohlfing has since proved it to be simple myoma.)

Dr. Gregory.—I think that Dr. Gehrung did right to perform the operation. I do not see what else he could do, because certainly the tumor was expanding rapidly, it was filling the true pelvis, necessarily crowding upon important outlets; in fact I am somewhat astonished that he has said nothing about functions, I am astonished that the functions were so well performed, for it does not seem that there was any urgent symptomatology of that kind. Then again I think from its rapid growth that it is a myo-sarcoma. I cannot believe that it is what is called a fibroid tumor, and my reason, which I have so frequently stated before, is that no

formed tumor can grow rapidly; that all tumors which are made of formed tissue are necessarily tumors of slow growth, and that when tumors are rapid in their expansion they are elementary in structure. Therefore, I say that I believe when that tumor comes to be examined carefully it will be found that in minute structure it is a myo sarcoma. Sarcomatous tumors are always uncertain as to what the result may be hereafter. When I remove a sarcoma from any part of the body I always feel that I have no guarantee as to what the outcome may be. On the other hand, my observation has been that they nearly always show themselves somewhere else. In other words, I think the sarcomata are much more malignant than the carcinomata. As a rule all elementary tumors are essentially malignant tumors. On the other hand, all tumors that are made up of formed tissue are simple tumors. That is my own way of looking at the thing; so that I always teach that all tumors that are rapid in growth and all tumors that are elementary are malignant; all tumors that are elementary are rapid in growth and all tumors that are made up of formed tissue are necessarily tardy in their progress.

Dr. Glasgow.—I think this is a specially interesting tumor; it is a good example of those fibroid tumors which are ready for operation, and should be operated on when, as Dr. Gregory says, they cause no dangerous symptoms. If we wait always for dangerous symptoms in such cases, where we have a fibroid wedging into the pelvis, we may wait too long. I saw a case of that kind not long ago, a case of Dr. Carson's, where he had removed a fibroid which had been wedged into the pelvis exactly like this. In that case there were symptoms of obstruction; everything seemed to be favorable, but that woman continued to vomit and she died. I was present at the post mortem examination. The sigmoid flexure was pulled out and the rectum was found to be very much contracted; the whole bowel was contracted. You could see where it had been pressed against the rim of the pelvis, the lower portion of the pelvis, by that tumor. It had been going on for a good while, I have no doubt, and I do not see how there could be any doubt that the tumor was the cause of this trouble. It was a condition that would naturally be overlooked in any case, at least no one would expect it. After the tumor was removed the pressure of course would be relieved, but that woman was not relieved, and she died, and died naturally from obstruction of the bowels brought on by pressure. I think there are a great many of those cases, and many of them probably are left too long. Not long ago I had one where the tumor was wedged down into the pelvis and there was suppuration going on; could not tell where the suppuration was, could not find it, yet I knew there was a fibroid there. It was a very difficult thing to get at, the suppuration being beneath the fibroid. The patient was very much reduced, and she did not recover from the shock. That case was left too long. I say if we have a fibroid that is wedged into the pelvis, and we are not able by frequent manipulation or pressure upward to get it free, so that it wil rise above the rim of the pelvis, then we ought to be ready to operate any time, and probably urge an operation even though there are no very urgent symptoms. I had a case like that where I used electricity; couldn't use it in the uterus, couldn't get anything in the uterus without causing intense pain, so used it through the vagina. I do not know whether the electricity did much good, but I used it about sixteen times I recollect. The woman is all right and has had no trouble since. Whether electricity had anything to do with it or not I do not know, but at any rate she was completely relieved.

Dr. Gregory.—I think Dr. Gehrung is to be congratulated upon the successful progress of his case. It must have been a very difficult procedure.

Dr. Dorsett.—Did I understand Dr. Gehrung to say that there was hemorrhage in this case?

Dr. Gehrung.—There was menorrhagia, coming on every two to three weeks, lasting ten to twelve days and quite profuse.

Dr. Dorsett.—The reason I asked that question, Mr. President, was, that, according to my understanding of these tumors, the more a fibroid becomes a sub mucous fibroid, the greater the probability of hemorrhage. I had a case sent to me from the Northern part of the State about a month ago, a colored woman, who was very large and heavy, whose abdominal walls were very thick, and who had what I thought an intra-mural tumor as well as a sub mucous fibroid. She suffered from hemorrhages every ten or twelve days, and for that reason I was led to operate, to stop the hemorrhage, expecting that I would have to do a hysterectomy. I could not get a probe into the uterus to find out how deep it was, and I could not turn the tumor on account of the thickness of the abdominal walls, so that I was completely in the dark in regard to just what I was going to do when I got the abdomen open. I cut through the abdominal wall, and I do believe it was at least four inches thick. I was surprised to find when I got there simply a sub-peritoneal fibroid, one not quite so large as Dr. Gehrung's specimen, but about that shape, in fact it was a twin sister to the one that Dr. Lutz presented to this society some time ago. It grew right from the summit of the uterus, right from the fundus; directly upward, and I had no difficulty in cutting it off, encapsulating it rather. I was surprised to find that there were no other tumors there, and the uterus did not seem to be any larger than a normal uterus ought to be. The woman was 44 years of age. I closed up the abdomen, being disappointed in not finding what I expected to find, but feared that I was going to have a return of the hemorrhage, thinking possibly that there was a small sub mucous fibroid remaining. It has been three or four weeks since I operated; she has menstruated once, less in quantity than usual and at the right time, and so far there has been no hemorrhage. To that my views on these matters are somewhat changed, for I always thought that hemorrhage was due to a sub-mucous

fibroid, and the sooner that it became a sub-mucous fibroid the greater probability of hemorrhage.

There is another matter that Dr. Gehrung spoke about that was not quite clear to my mind, and I would like to ask him a question about it, that is this: He made a statement I believe that the less the supply of blood the more rapidly a tumor grew.

DR. GEHRUNG.—Dr. Dorsett has evidently misunderstood my statement. Normal arterial supply with increased venous stasis, I believe, promotes the development of new growths mechanically and chemically and physiologically.

DR. PAPIN.—Do I understand you to say that the growth is due to the venous blood?

DR GEHRUNG —No. I believe that the stagnation is one of the causes of the growth. The arterial blood gets in and the venous blood does not go out, so that there is a constant afflux with a limited efflux from the tumor, distending it and stimulating it to greater activity.

DR. PAPIN.—The mere fact that the return of the venous blood is impeded is simply because the walls of the veins are so much weaker than those of the arteries, but the nutrition comes from the arteries, an edematous condition is produced there; any active condition can not possibly arise except from the arterial blood. That is what I have been taught all my life.

DR. GREGORY.—I think Dr. Papin is right; that no active growth, no rapid growth, can ever take place in venous blood; but the venous blood seems to promote connective tissue growths, and the explanation is that they are stuffed with exudates.

DR. PAPIN.—That is it.

DR GREGORY.—Too little blood leaves the part, and certainly cannot favor any active nutrition. At the same time I can understand that it leads to the escape of the thinner portions of the blood into the tissues, and these tissues are expanded rather by what you would call mechanical means. There is really no active cell proliferation in those cases.

DR. GEHRUNG —I have seen quite a number of fibroid tumors which by their own weight dragged down into the true pelvis where they grew rapidly, after being lifted out and kept floating among the intestines. I have observed some for many years; there was little or no growth.

Dr. Gregory remarked that I had said nothing about the functions. The functions accomplished were considerably disturbed. The urine trickled from the patient; she could not control it; it caused irritation of the external genitals and the water had to be passed very often. Very severe constipation was another element that accompanied her troubles, showing that the bowel was very badly interfered with also.

As to the malignancy or non malignancy of this tumor, I had my own suspicions, but I have not yet had it examined. When I began the operation I considered it to be one solid tumor, but as this specimen shows it consists of three lobes, the womb forming the fourth one. The whole was a tumor united in one solid mass, from which the smaller tumors grew. In the broad ligament, under the Fallopian tubes and in the round ligament these tumors were likewise disseminated, as if they were of a semi-malignant type.

DR. GREGORY.—What tissue is it that overlies that tumor; not peritoneal is it?

DR GEHRUNG —It is the fibrous network which bound the tumor to the capsule. This is only the tumor itself, not the capsule.

DR. GREGORY.—What of those smaller tumors, are they connected by peritoneal tissue?

DR. GEHRUNG.—Yes, sir, by peritoneal tissue, but probably growing from some muscular element as they are also found in the round ligaments.

DR GREGORY.—How did you dispose of the capsule?

DR. GEHRUNG —I trimmed the irregular surfaces and closed them over the stumps. The patient was under chloroform about one and a half hours, and becoming rather weak, I had to close the abdomen as rapidly as possible.

DR. GREGORY.—You attached the capsule to the peritoneum?

DR GEHRUNG.—I attached the fragments of the capsule as well as I could over the stump

DR GREGORY.—You did not attach the capsule to the integument?

DR. GEHRUNG.—No, doctor.

DR GEHRUNG.—Here I have another specimen. I do not know that in itself it is of very particular importance, but it was apparently an ovarian cyst that broke again and again, keeping the patient for months under constantly recurring attacks of peritonitis. Of course I expected considerable adhesions, which I found forming a complete roof over the uterus and adnexa and which I broke up, removing this specimen. The patient's temperature was about 102° F when she got on the operating table. These peritonitic attacks came on with the least provocation, even if she got out of bed when her temperature was down to about 99° or 100°; then the cyst would break again and cause a fresh rise in temperature, chills and vomiting. I therefore concluded to operate and here is the substance which came from it. The womb was retroflexed and pressed down almost to the vulva, and could not be raised except by starting a fresh attack of peritonitis; even the insertion of a small pledget of cotton sufficient to fill the free space of the vagina would start another attack of localized peritonitis. Since the operation to day a week the temperature has gone down to normal, the patient is feeling better and looks better than she has for months.

DR. GLASGOW.—How were the tubes?

DR. GEHRUNG.The tubes were apparently not much interfered with.

DR. GLASGOW.—You are sure that leakage came from the ovarian cyst?

DR. GEHRUNG.—I have not yet examined the specimen. I really do not know whether this cyst was in

the ovary or in the tube, but wherever it came from, the cyst burst when I broke up the adhesions. Both ovaries were enlarged and diseased. (Since the meeting the pathologist's report was received. He calls the specimens a bad case of cysto-adeno-ovarii which furnished the rupturing cysts). The patient has made a very good recovery so far. This case is interesting so far as these rapid attacks of peritonitis are concerned. In ordinary peritonitis it may be a very doubtful question whether an operation is advisable, but in a case where we know the cause to be from constant rupture of a cyst or an abscess, constantly endangering the life of the patient and rendering her existence unbearable, I think it is fully advisable that the diseased organs should be removed.

Dr. Hypes.—I have been very much interested in the discussion of this tumor, and in listening to the doctor's account of his operation; the history of a number of cases reported by Prof. Etheridge, of Chicago, comes to my mind in regard to the manner in which he performed these operations. I have noticed lately where he has operated on a number of fibroid tumors, removing them, I suppose, principally, from the nature of the operation, from the muscular tissue, and his method of operation has been, that he has removed the tumor, leaving the uterus and sufficient of the peritoneum or the capsule to entirely close up the wound, then to make an opening into the uterine cavity and drain the wound through the uterus; in other words, making the wound entirely an extra-peritoneal wound. His success has been very great and the operation has been praised by a number of men, especially Dr. Sims, and it strikes me as a very sensible and a very proper way of disposing of those tumors from the outgrowth of the uterine tissues. Of course where the capsule is so thick, and where there may be so many other tissues involved, and so much difficulty in extirpating it, that form of operation might be inapplicable; but it strikes me that that mode would have been a much safer one than that which the doctor was compelled to or did follow.

Dr. Dorsett also speaks of a case that he has which just strikes me that he should have applied a little of his own medicine to. He has the credit, and I am proud and glad of it, of having first recommended to the profession the tying of the uterine arteries for preventing the growth of fibroid tumors and also stopping the hemorrhage from these various growths. It occurs to me that he had the very case come to him this month or this spring where that would have been applicable, according to his theory and according to the theory of Martin, of Chicago, and others, who are performing this operation now quite frequently; that is, the tying of the uterine arteries to prevent hemorrhage and prevent the growth of the uterus. What do you think of it, Dr. Dorsett?

Dr. Dorsett.—I will say that I thought of this, and proposed it to the doctor and to the patient, but he had been up to Chicago with the patient and had consulted one or two gentlemen there, who advised against it, and he was so much imbued with their ideas that he would not consent for me to do it. I will say also that they seem to have a hospital up there to which they invite patients; that they have agents traveling through the country looking up patients for that hospital, and an agent had been to see that patient and had offered her all sorts of inducements to go to Chicago and be operated upon, and finally upon his solicitation this doctor took the patient there and was very much imbued with their ideas, and thought that the operation of general hysterectomy ought to be done, but the relatives and friends of the patient, she being a colored woman and an old family servant, insisted that she should be brought here, and he came down with her, and I proposed this operation and wanted to do it, used every means that I could to induce him to allow me to do it, but he would not consent.

Dr. Hypes.—Do you mean to say he had consulted Dr. Martin, of Chicago, about it?

Dr. Dorsett.—I do not know if he had consulted Martin, but he mentioned several other names.

Dr. Glasgow.—I saw a case, just this kind of an operation that Dr. Dorsett speaks of, this winter out West. It was a case in which Martin had operated by tying the uterine arteries. I could not find out exactly how large the fibroid was when he operated, but it was causing her a good deal of disturbance. He operated last October—early in October I think, or in September—and the lady was very much relieved. Martin assured her that the uterus was down to normal size before she left. That must have been six weeks or two months afterward, and when the lady's husband told me that I said that I could not imagine how that could possibly be, that the uterus could get down to normal size in a short time like that even if he had tied the arteries. She was suffering from a severe neuralgic attack. He had me examine her. I found ligatures, one on each side, which had formed small abscesses. There was nothing to do but remove the ligatures, which I did. I examined the uterus at the time, and it was about the size of a three and a half months' pregnancy, a very easy case to examine; there could not be any doubt about the size, not the slightest. She had been told that her uterus was down to normal size, not only by Martin, but by another man out West who is supposed to know something about gynecology, and he had told her about two weeks before I saw her that the uterus was of normal size. Martin might have been excusable, but the other man made a mistake. That lady was very much relieved by the operation; she was not entirely well, suffering from these abscesses, but she is in very good condition now. The operation did relieve her, but the uterus did not come down to normal size.

Dr. Dorsett.—How large was the uterus before he operated?

Dr. Glasgow.—That I could not find out.

Dr. Dorsett.—That is a very important matter.

Dr. Glasgow.—It could not have been very large.

The doctor said he thought it was about four or five inches in diameter.

Dr. Papin.—Will the doctor tell us why she was not in the family way?

Dr. Glasgow.—I don't know.

Dr. Papin.—Did she menstruate regularly?

Dr. Glasgow.—Yes.

Dr. Dorsett.—In other words, how do you know but what she was?

Dr. Glasgow.—I saw her about two months ago and I asked her doctor, and he said no.

Dr. Papin.—I was called some three years ago by an old practitioner here in the city, a man of remarkable intelligence and cool head, but he made up his mind that his wife was not pregnant; that she had a tumor, and on several occasions had used a Simpson's sound to the depth of eight inches and had not broken the sac; but he wanted me to see her. I went to see her, and after examining carefully found, as I thought, a big head coming down. I took out my stethoscope and found the beat of the child's heart. I told her that she would have a baby in about two weeks, and twelve days after that the child was born. Not long after that I got a note from the doctor thanking me for my services. There was a woman who had had several children, and she did not know that she was pregnant, but twelve days afterward she gave birth to a bouncing big boy.

Dr. Gregory.—These questions have occurred to me: If the main uterine artery can be followed along the wall of the uterus all the way up to the ovarian artery, whether the uterine artery arriving at the uterus does not dispatch a branch to the neck, and then that the main stream can be followed along the wall of the uterus, and whether when this artery is tied off, that main uterine artery is kept full by the regurgitory circulation from the ovarian artery. These are questions occurring to me. I have taught anatomy for many years in the dissecting room, I think for fifteen years; I have not forgotten all my anatomy. In other words, there is a provision in the ovarian artery for supplying the uterus perfectly. In this particular case it is remarkable how the uterine artery follows along the wall of the uterus, and is necessarily in direct communication with the ovarian artery.

Dr. Dorsett.—Dr. Maury, I believe that is his name, reported a case of atrophy of the uterus that this is analogous to. He attributed this atrophy of the uterus to the small amount of blood that was passing through the organ. Incidentally I would state that I had a patient at the Female Hospital who had a very small uterus, an infantile uterus, so to speak. I wrote to her physician, a Dr. Swaford, of Terre Haute, and asked him to give me a history of her case, and it was truly a remarkable one; but I will say in the first place that upon making the examination, in passing the probe in it did not measure three quarters of an inch in depth; that the vagina was very narrow; that the os was very small; that the neck was very small, and did not appear to be a uterus any larger than a uterus of a child nine or ten years old. The history of the case was that he was called to see her in a hurry. She lived in the country, and it therefore took him some time to get to the house. When he got there the child was born, and she was standing on her feet with a mass hanging between her limbs. What it was he did not know until he had made a thorough examination, and he found it to be an inverted uterus. It had been out for a considerable length of time, and it was only by muscular force that he was able to push it back into the vagina. That woman finally partially regained her health, but became an invalid afterward. In thinking over this case I figured it out that the cause of this condition was that the circulation was impaired at the time of this inversion, it being cut off. Therefore I thought that if we wanted to cut off the circulation, ligate the uterine arteries. I reported it as a case of atrophy of the uterus, probably due to this cause.

Dr. Glasgow.—Did that woman menstruate regularly?

Dr. Dorsett.—No, sir.

Dr. Glasgow.—Then I think you should look higher for the shutting off of the blood supply, not the uterine artery, but the ovary.

Dr. Hypes.—Just one question. Did this tumor involve much of the uterine tissue, of the muscular tissue?

Dr. Gehrung.—I suppose not, because it was shelled out almost completely, and the pedicle ligated. There was apparently a division, and the cyst seems to have covered the surface more or less completely.

Mississippi Valley Medical Association.

The twentieth annual meeting of this well-known organization will be held, as previously announced, at Hot Springs, Ark., November 20, 21, 22 and 23, 1894.

The general committee of arrangements held their final meeting on September 1, in the city of St. Louis, there being present, in addition to the committee, President Scott, of Cleveland; Vice-President Strauss, of St. Louis, and Secretary Woodburn, of Indianapolis. Dr. T. E. Holland, of Hot Springs, presided. All of the preliminary arrangements for the meeting of the Association were completed.

Owing to the hearty co-operation of the railroads, the arrangements in this direction will surpass those of any previous meeting. On motion of Dr. I. N. Love, of St. Louis, a committee of five railroad officials was appointed to secure the desired reduction of rates. This committee consists of Messrs. Townsend, Crane, Snyder, Wishard and Ives.

The interest and enthusiasm manifested in all parts of the country concerning the meeting in November is certainly remarkable. The fact that Hot Springs is to be the place of meeting will probably be an inducement for many to attend. From the large number of favorable responses to his preliminary announcement, the Secretary feels justified, even thus early, in predicting an

attendance double that of any previous meeting of the Association.

Let every doctor who can possibly leave home for a few days go to Hot Springs in November. Let him take his family and his friends, and not only a profitable meeting, but a royal good time, will reward him for the exertion.

FREDERICK C. WOODBURN,
399 College Ave., Indianapolis. Secretary.

ABSTRACTS

MEDICINE.

Tuberculosis of the Larynx Acquired by Cohabitation.—Cadier (*Ann. d. Mal. de l' Oreille.*). The author uses the term cohabitation strictly in the gallic sense, having reference to the acquisition of tuberculosis by the occupancy of the same bed with a person already suffering from tubercular disease. From his own obsèrvations he believes that laryngeal tuberculosis thus acquired is ordinarily confined to the upper part of the larynx (ventricular blands and upper surfaces of the vocal cords). In the majority of cases, the lesion remains for a long time localized in the larynx, and during this period it is recognizable on close inspection. By reason of these two latter facts, there is a great field opened for therapeutic effort. Many cases can be arrested by proper insufflations and topical applications, but in order to achieve these happy results, the treatment must be begun as soon as the diagnosis is made.

As to the preferable technique to follow, it goes without saying that the tubercular patient should sleep alone and preferably room alone. Antiseptic sprays should be used in the room. Cadier prefers as a topical agent, creosoted vaselin (1 to 10, 15 or 20). These should be made two or three times a week and insufflations or fumigations as often daily. If there is frequent cough with irritation in the larynx, he applies cocaine and morphine. For the insufflations he uses chloride of zinc, arsenic or creosote. He has seen in 80 per cent of his cases amelioration or a rapid cure.

Such statistics as the foregoing are not conclusive, but the article as a whole is suggestive in that it counsels the proper isolation of tubercular patients. We need not discuss here the advisability of having this isolation under municipal control, but a physician is criminally negligent who does not lay down the law in plain English to every household which shelters a case of tuberculosis. The ignorant or willful misbehavior of many intelligent people, with regard to this matter, is amazing. The ravages of tuberculosis will be (if ever) stayed, not by curing those already sick, but by shutting off the supply of new cases. Tuberculosis is in reality, from a medical point of view, one of the most easily controlled of all the infectious diseases.—*Amer. Med.-Surg. Bulletin.*

Safranin Reaction in Sputum.—A simple test as an aid to diagnosis is suggested by Zenoni (*Lancet*). It depends upon the fact that mucin is colored yellow by safranin, while albumin is stained red. In the sputum of bronchitis mucin predominates, while in that of pneumonia there is a much larger proportion of albumin. Zenoni, therefore, prepares a cover-glass specimen of the sputum by spreading the latter out in a thin layer on the former, places it at once in absolute alcohol, and leaves it for a quarter of an hour; by the end of that time the film becomes coagulated and fixed to the glass. The preparation is then stained in a half saturated aqueous solution of safranin. When the cover glass is removed it is partially dried and then placed on a white ground and examined. If it is stained a yellow color mucus predominated in the sputum, and the case may be assumed to be one of bronchitis only, while if a red color appears albumin was the chief constituent, and pneumonia was probably the condition present. This test, if proved to be trustworthy, would be a considerable aid to diagnosis in those cases in which the physical signs of pneumonia are doubtful. Especially would it be of value in the case of children if a sample of sputum could be obtained, as can usually be done with a little trouble. But further trial will be required before it can be generally accepted.

Sterilization of Catgut by Heat.—Professor M. Schuller, of Berlin, says (*Aerztl. Praktiker; Med. Record*) that the question of sterilization of catgut is of importance not only to the surgeon and gynecologist, but to every general practitioner. The physician should not content himself with the material offered by druggists and dealers in surgical supplies, but he should be able to sterilize it himself. The methods thus far employed to sterilize catgut are tedious, and for the most part unreliable. The author first tried dry heat, but gave this up as being too tedious. He then experimented with hot fluid, of different kinds None proved as satisfactory as oleum lavandulæ, an ethereal oil free from oxygen and of very agreeable odor. Catgut loosely rolled up in rings is placed in a wide-mouthed bottle containing lavender oil. The bottle is to be filled up to the stopper, which latter is to touch the surface of the oil. Care is to be taken that all the catgut in the bottle is well covered, because parts which have been above the surface of the oil during the process of sterilization will become brittle. The bottle, hermetically closed, is placed in the steam sterilizer and there subjected for a half-hour to a temperature of from 106 to 110°C. The catgut having been sterilized in this manner is supple and does not tear under ordinary force. The catgut is removed from the bottle by means of sterilized forceps for immediate use, or to be placed in sterilized water or in carbolic acid solution until needed for use. The lavender oil possesses the special advantage over many

other fluids, especially oils, in that the same oil can be used repeatedly.

Losophan in Dermatology.—The following account of losophan occurs in the *International Medical Annual* of 1894; "This is said to be a tri-iodo-cresol. It contains 80 per cent of iodine, is soluble in alcohol, and is readily taken up by fatty substances. Saalfeld has found it of especial value in parasitic affections of the skin, both vegetable and animal. In sixteen cases of tinea tonsurans of the face and body thirteen were cured and three much improved. In some cases affecting the scalp, one was cured and the other much improved. In some cases of parasitic sycosis good effects were obtained, but when necessary, epilation was also had recourse to. It was not useful in scabies, but proved beneficial in some cases of prurigo, chronic eczema with infiltration, sycosis vulgaris, and acne vulgaris and rosacea." To this must be added that aside from its antiparasitic and stimulant effects losophan has been found to exert a marked influence in allaying the itching in diseases of the skin. Dr. Waugh especially has called attention to this valuable property of the drug, which was strikingly exhibited in two cases of pruritus ani and one of pruritus vulvæ which had resisted all other treatment. It should be borne in mind that in order to obtain the best results from losophan it must be thoroughly dissolved in oil and not simply mixed with fats, and that stronger solutions than 10 per cent are rarely required.

SURGERY.

Suppuration.—The discovery by Ogston of micrococci in the pus of abscesses gave rise to the belief that suppurative inflammation was quite distinct in its nature from the more simple forms of inflammation, that it was a specific disease dependent upon a definite cause and not occurring without its agency. The researches of Koch into the infectious processes of wounds, and the more careful study of bacteria made possible by the use of solid culture media, however, disclosed the fact that several distinct species of bacteria were associated with pus-formation, and Koch consequently asserted that suppuration could not properly be considered a specific disease. Subsequent study has confirmed this opinion, and has demonstrated an etiological relationship to suppuration of a much larger number of bacteria than was at first supposed. The various problems connected with the occurrence of suppuration have thus become more complicated and have been the subject of much research during the past few years. The results of this study are carefully reviewed by Kurt Muller in a recent number of the *Centralblatt f. Bakteriologie und Parasitenkunde.*

While admitting that in a few instances inflammation with pus-formation has been produced experimentally without the agency of bacteria, Muller regards this to be of no practical importance, since suppuration as it occurs in man is unquestionably always the result of the action of micro-organisms. But the germs associated with suppuration are not the only factor to be considered in the study of its etiology, for the accumulation of the inflammatory products depends also upon the vital activity of the tissue upon which the influence of the germs is exerted.

The importance of the tissue in determining the occurrence of suppuration is shown by a number of circumstances. Thus, many germs occasionally producing suppuration do not habitually do so, apparently only acting in this way when the state of the tissue is such as to react in an unusual way to their influence. The bacillus typhosus, the bacillus coli communis and the micrococcus tetragenus are examples of germs occasionally acting to cause suppuration in this way. Again, it is not unusual to find inflammation of less intensity than the ordinary suppurative inflammation caused by the germs which usually cause suppuration in its most virulent form. The staphylococcus pyogenes aureus not infrequently causes simple serous inflammation (pleurisy with effusion), or may cause only areas of tissue necrosis at the points of its lodgment in the body. Another interesting fact bearing upon this question of the part played by the tissue is suppuration is that its susceptibility may change with great rapidity. A case illustrative of this is cited by Muller. A man who two weeks before had suffered from a suppurating wound of the finger, presented himself with diffuse infiltration and redness about shoulder of the same arm. When incised a considerable quantity of serous exudate escaped, but no pus. Cultures of this serum showed only streptococci. The wound was dressed aseptically. In three days the man died, and at the autopsy the whole region previously occupied by a serous exudate was found to be infiltrated with pus, which still showed only streptococci. It would seem that in this case the tissues must have undergone a change of susceptibility.

A change of susceptibility is also observed with change in age of the individual. This is exemplified by "spontaneous" osteomyelitis which is comparatively rare after the twenty-fifth year. It is also strikingly illustrated in the case of rats, which while young are exceedingly susceptible to anthrax, but when adult show great immunity to it.

It is evident, then, that the condition of the tissues must exert an important action in determining the occurrence of suppuration.

The germs which have thus far been described as at times giving rise to suppuration are: Staphylococcus pyogenes aureus, albus and citreus; steptococcus pyogenes staphylococcus cereus albus, streptococcus cereus flavus, micrococcus pyogenes tenuis, micrococcus tetragenus, pneumococcus, bacillus pyogenes fetidus, bacillus typhosus, bacillus coli communis and bacillus pyocyaneus. Of these the staphylococci, streptococci and the pneumococcus are by far the most frequent causes of

suppurative inflammation. To these Muller would add, and apparently with justice, the bacillus tuberculosis, the gonococcus and actinomyces.

Nothing can be more certain, then, than that suppuration cannot be regarded as a specific process. It results from the action of a great variety of micro-organisms which are profoundly influenced in this action by varying states of the tissues. It must, therefore, be considered as nothing more than an intense form of exudative inflammation in which peculiar conditions of bacterial activity, or of tissue susceptibility, or of both, lean to an inordinate emigration of leucocyles and necrosis of tissue.—*American Journal of the Medical Science.*

Sprains.—At a recent meeting of the Boston Society for Medical Improvement an interesting paper entitled "Sprains and Disabled Joints" was read by Dr. E H. Bradford. It is published in the Boston *Medical and Surgical Journal.* As regards the question as to what lesion is found in a sprain, Dr. Bradford says that practically the inquiry may be limited to the knee-joint and the ankle, for sprains of the hip are chiefly contusions. If, he says, a dissected ankle is submitted to a violent twist, it will be found that the forced motion causes a strain upon the ligaments and the tendons, chiefly of the medio tarsal joint, and that, as a rule, the bone itself is not bruised. Ordinarly in sprains the weight is thrown upo the forcibly inverted or forcibly everted foot; in some instances the foot may be forcibly flexed or extended. In the latter instance, although the astragalus is involved in the lesion, the strain falls upon the ligaments and tendons of the fore part of the foot Displacement is not to be expected except in the severer injuries. The same conditions are true, but to a lesser degree, of the knee. The symtoms met with in sprains are as follows: The muscles being violently exerted to preserve the equilibrium, the patient suffers extreme pain and may be faint or have a faint sensation, and any attempt to use the limb may be either impossible or excessively painful. This is followed by swelling, sensitiveness and discoloration. Attempts at walking are painful, and the joint remains weak for a long time. It is probable that, if the parts were to be dissected at this time, ruptured capillaries would be found, with effusion of blood and serum, also rupture of some of the ligamentous fibers and probably also in some instances rupture of the fibers of the capsule. In the case of the knee an increase of synovial fluid sometimes takes place, together with extravasation of blood. These occurrences seem to be exceptional in the case of the ankle.

The treatment should at first be directed toward checking the effusion and the extravasation. This may be done in several ways, such as by compression for a short time and by the use of measures calculated to improve the circulation in the parts about the joints—namely, the application of heat and cold, massage, and motion of the joint, which, however, should be so restricted as to prevent any excess of motion or stretching of the strained ligaments. The length of time for which it is necessary to protect the joint from extreme motion will vary according to the amount of reparative power, the degree of violence and the age; but there seems to be no justification for the popular notion that a sprain is worse than a break, a notion that appears to be based upon the over-cautious treatment of such injuries, which, by interfering with the proper circulation of the part and with guarded motion, increases the sensitiveness and produces a condition which, if unchecked, may give rise to such a disability of the joints as will be more tedious than that due to an ordinary fracture. This condition is what is seen occasionally in joints that are stiffened simply from disuse. The condition following a strain is somewhat analogous to that of the soft parts near a fracture—the circulation is interfered with, there is a certain amount of soreness on motion, and the muscles and ligaments are strained. In the treatment of sprains we should not be influenced by what Verneuil calls ankylophobia; a sprain is not a fracture; at most it is a tear of some of the fibers of certain ligaments, and this unites readily. Pain is the natural check to an excess of motion. Fixation by apparatus can be necessary only to stop the pain for a short time after a severe sprain. In the early stages motion short of causing pain is harmless; in the later stages motion and use should be allowed up to the point of pain; and in some instances, in highly sensitive persons, guarded and protracted motion, even beyond the point of pain, is indicated. Compression may be useful for a short time during the period of effusion, but after that it becomes injurious. As a means of improving the circulation, applications of heat and cold and friction are needed from the first and the use of the limb, when it can be resorted to without causing pain, is a natural means of improving the circulation and nutrition.

The Bacillus of the Chinese Bubonic Plague.—The *Lancet* contains an article on this subject by Professor S. Kitasato, who gives an interesting account of this disease and its bacteriological character (N. Y. *Med. Jour.*). The bacilli, he says, are to be found in the blood, in the buboes, in the spleen, and in all other internal organs of the victims of the plague. The bacilli are rods with rounded ends, which are readily stained by the ordinary aniline dyes, the poles being stained darker than the middle part, especially in blood preparations, and presenting a capsule sometimes well marked, sometimes indistinct. The bacilli found in the spleen are best stained by a solution of methyl blue. The bacilli show very little movement, and those grown in the incubator, in beef tea, make the medium somewhat cloudy. The growth of the bacilli is strongest on blood serum at the normal temperature of the human body. Under these conditions they develop luxuriantly, and are moist in consistence and of a yellowish-gray color; they do not liquefy the serum. On agar-agar jelly they also grow freely. The different colonies are

of a whitish-gray color, and by a reflected light have a bluish appearance; under the microscope they appear moist and in rounded patches with uneven edges—at first they appear everywhere as if piled up with "glass-wool," and later as if having dense, large centers. If a cover glass preparation is made from a cultivation on agar agar, and, after having been stained, is observed under the microscope, long threads of bacilli are seen which might, on careless inspection, be mistaken for a coccus chain, but are recognized with certainty as threads of bacilli under closer observation. The growth on agar gelatin is similar to that on agar-agar; in a puncture cultivation at the ordinary temperature after a few days they are found growing as a fine dust in little points alongside the puncture, but with very little growth on the surface.

Dr. Kitasato experimented on animals and found that mice, rats, guinea-pigs and rabbits were susceptible to inoculation. If they are inoculated with pure cultivations, or with the blood of a patient in which the bacilli have been observed, or with the contents of a bubo, or with pieces of the internal organs, or even with the contents of the intestine, they become ill from one to two days, according to the size of the animal. Their eyes become watery; they show disinclination for any effort; later they avoid their food, and hide quietly in a corner of the cage. The parts around the point of inoculation are infiltrated with a reddish, gelatinous exudation, the spleen is enlarged, sometimes there is swelling of the lymphatic glands, and bacilli are found in all the organs. The results found after death in animals are very similar to those found in anthrax and in edema malignum. Pigeons do not appear to be susceptible to the influence of the bacilli.

The recent outbreak in Hong Kong, says the author, has given an opportunity of studying the disease with the means which modern science has placed in our hands. The principal symptoms are the following: After the period of inoculation, which lasts from three to five days, the patient complains of high fever and swelling of one or more of the lymphatic glands. These swellings may precede, accompany or follow the rise in temperature, and are accompanied with severe pain. The gland most commonly affected is one of the femoral chain; next an inguinal, and then an axillary, and sometimes a cervical gland is affected. The tongue is coated with a grayish-white or dark-brown heavy fur. There are headache and delirium, the heart is generally affected, and occasionally vomiting and diarrhea are present. The two last conditions are generally forerunners of a fatal issue. In patients who recover, the temperature does not fall until a week has passed, and convalescence is a slow process. Sex and age make no difference in the disease; all are equally attacked. It is not always an easy matter, says the writer, to demonstrate the presence of the bacilli directly in the blood of many patients; they are sometimes present in such small numerical strength that only after examining several slides can they be discovered. In order to be safe, not only must the blood of a suspected patient be examined, but a cultivation should also be made. In the buboes the bacilli always occur in the form of pure cultivations, but it is not always easy to procure a specimen of bubo contents from the living subject, and the question arises, Is it possible to make a diagnosis from an examination of the blood of the patient? In many cases Dr. Kitasato thinks it is, but, he says, a good deal of bacteriological practice is required, or such a diagnosis is impossible.

In the blood of human beings suffering from bubonic plague there is a new bacillus possessing the following qualities:

1. The bacillus occurs in the blood, in the buboes, and in the internal organs of the plague-stricken only.
2. This bacillus is not to be found in any other infectious disease.
3. With this bacillus it is possible to produce in animals the identical symptoms which the disease presents in human beings.

We may suppose, says the author, that they have three principal channels of entrance: by respiration, through an external wound, and the intestinal tract. Examples of the latter way are not positive so far, but, as bacilli were found in the intestinal canal, and experiments on animals proved that feeding alone produced definite results, it must be conceded that the third way is a possible method of infection.

The means to be employed against the plague should be preventive measures, general hygiene, good drainage, perfect water supply, cleanliness in houses, and cleanliness in the streets. After a patient has apparently recovered, he must be kept apart from others for a period of a month, for during convalescence the bacilli may be discovered in the blood from three to four weeks after all symptoms have ceased.

Primary Carcinoma of the Gall-Bladder.—Delano Ames, M.D. (*Johns Hopkins Hospital Bulletin*). After reporting three cases, the author says it was difficult to make an exact diagnosis from the symptoms and signs. One point in favor of the diagnosis of cancer in the first case was the profound and obstinate anemia, the hemoglobin never registering above 28 to 30 per cent.

At the best, carcinoma of the gall bladder is not very easy to recognize; but in doubtful cases there are certain points with regard to sex, age, and the previous history of the patient that sometimes will assist us in making a diagnosis.

The most important symptoms are jaundice, presence of a tumor, pain, emaciation, vomiting and nausea, ascites, constipation or diarrhea, loss of appetite and progressively increasing weakness.

Hemorrhages into the various tissues of the body may occur; hiccough, ptyalism and dysentery have been noted in a few cases.

Jaundice is present in a large percentage of cases (69). It may be very slight, or progressively increasing in in-

tensity. In a certain number it is absent. When present, it is due either to a new growth in the ducts, or occlusion of the same by stones, inflammation, or pressure from without by enlarged glands. The skin may only present small pigmented areas associated with more or less pronounced itching. A tumor mass is noted very frequently. It is most frequently found in the right hypochondrium, though it may be found occupying the area of the pylorous or lie as low as the inguinal region. The size may vary greatly, and the tumor may be solid, fluctuating, and movable. Pain when present is generally referred to the region of the liver. Often it is paroxysmal and lancinating in character, the paroxysms varying in duration from a few minutes to some hours. Tenderness over the tumor is usually present and, during the attacks of pain, is accentuated.

Emaciation is not as frequent as might be expected. Vomiting or nausea are present in about one-half of all the cases. Bloody vomit has been noted. Ascites is occasionally present and is usually accompanied by edema of the lower extremities. Constipation or diarrhea are frequent. Loss of appetite, with indigestion and increasing weakness, are often present. Hemorrhages have occurred in a few cases. Fever is rarely present and never high. Usually the course of the disease is very rapid.

At the autopsy, the gall-bladder is found partly or wholly changed into a cancerous mass, usually adherent to the surrounding viscera. It is usually round or pear shaped, and appears to be solid.

It usually varies in size from a little above normal dimensions to as large as a child's head. It is whitish or brownish in color, has in general a firm, more or less elastic consistency when scirrhous in character, and is more soft and juicy when fungoid. As a general rule the surface is smooth, but at times it is found studded here and there with small nodules, which are secondary deposits in the overlying peritoneum.

On cutting into the mass there is found at about its center either the obliterated remains of the gall-bladder, or else its much contracted cavity, usually partly filled with a brownish fluid, sometimes purulent, and containing gall stones or the gragments of former calculi.

The primary position of the carcinoma may be either at the fundus or at the neck of the bladder.

The cancer spreads either by forming metastases in distant parts, or by continuity of growth into neighboring organs.

Distant organs are comparatively rarely involved by metastatic growth. The liver, however, is frequently involved in this way, the secondary deposits being generally found on or near the surface of the organ.

In most cases the growth in the gall-bladder is scirrhous in character, the walls being transformed in part or as a whole into a dense, coarse fibrous tissue, generally poor in cells, in which epithelial cells are found arranged either in solid clumps, isolated or confluent, or as alveoli and sometimes resembling the acini of glands, which may be either straight or branched. Occasionally the cells are found lying in long single rows between the fibers of connective tissue. The neoplasm is believed by many to develop either from the epithelial layer of the mucous membrane or from the glandular tissue in the mucosa. The cells are either round or cuboidal, and rarely a flat-celled growth is met with. In a number of cases in which the gall-bladder is dilated, papillary growths are found upon its inner walls that consist of solid tongues of epithelial cells, which, on section, may be seen running as deeply into the bladder walls as through the muscular coat, where they often take on a glandular arrangement.

Frequently the mucous membrane is found absent in places or entirely wanting. The walls are occasionally ulcerated; where this has gone far enough, fistulous openings are formed frequently into the duodenum or transverse colon. There is in these cases generally an involvement of the intestine in the cancerous degeneration.

As to the liver itself in these cases, it is most frequently enlarged. In a very few cases abscesses are found.

It would seem that if we are justified in ascribing a causative influence to local irritation in cases of cancer in other situations, we should look upon gall-stones as exerting the same influence in these cases.

Finally we may summarize the most important points.

1. Primary carcinoma of the gall-bladder is much less uncommon than was formerly believed.
2. It occurs most frequently in women, the ratio being 3–5:1.
3. It is a disease more particularly of the middle decade of life.
4. Gall-stones are found in from 91–95 per cent of the cases, and probably bear a causative relation to the disease.
5. Metastasis is not extensive: invasion of neighboring organs by continuity, common.
6. Adhesions to adjacent organs frequently occur. Ulceration and perforation are more rare.
7. Pain, jaundice, cachexia, emaciation, tumor, indigestion, nausea, vomiting, constipation, or diarrhea, with occasional ascites and edema, are the chief symptoms.
8. Pain occurs in 62 per cent (Musser).
9. Jaundice occurs in 69 per cent (Musser).
10. Tumor occurs in 68 per cent (Musser).
11. The disease is always fatal, and usually in a short time, the average duration varying according to the best authorities from 3 to 6⅔ months.
12. Death is due to exhausion, peritonitis, metastasis in other organs, and to biliary obstruction.—*American Medico-Surgical Bulletin.*

HOME SEEKERS' EXCURSIONS.—On September 11th and 25th, and October 9th, the Burlington Route will sell excursion tickets to all points in the Northwest, West and Southwest, at one fare for the round trip, plus $2.00.

OBSTETRICS AND GYNECOLOGY.

A New Method of Symphyseotomy.—Fenomenow (*La Semaine Medicale;* Brooklyn *Med. Jour.*) proposes to preserve permanently the new diam eters obtained by symphyseotomy. Experiments up on the cadaver and on animals lead him to believe the attempt would prove successful in the human subject He suggests either of two methods, as follows:

1. A semilunar incision is made through the skin of the pubic region, extending from a point situated internally to the external abdominal ring on one side, about a finger's breadth above the level of the upper border of the pubic bones, to the corresponding point on the opposite side, the lowest part of the incision touching the inferior border of the symphysis pubis. The flap of skin having been raised from the subjacent muscles the remaining soft structures are incised from above downwards and from without inward, about an inch on either side of the middle line of the symphysis pubis, in such a manner as to include a triangle, the base of which is formed by the upper border of the symphy sis, while the apex corresponds to the sub pubic ligament.

The periosteum having been detached from the bone, a wedge-shaped piece is cut out of the two pubic bones with the chisel or the chain saw, the apex of the wedge being likewise directed downwards so as to include the inter articular fibro-cartilage. The arciform or subpubic ligament is then divided if necessary; the ligament being left entire in cases in which it offers no obstacle to the separation of the pubic bones. This part of the operation is completed by plugging the wound with iodoform gauze, after which the extraction of the uterine contents is proceeded with. After delivery the periosteum is carefully detached with a scraper from the lower half of the wedge shaped piece of bone, the denuded portion of which is excised. The detached periosteum is brought down upon the cut surface of the quadrilateral piece of bone left after excision of the lower half of the wedge, while the latter is made to slide down upon the cut surfaces of the pubic bones so that the lower side of the bony trapezium comes to form the interior border of the symphysis, which is thereby reduced to half its original height, seeing that its upper border is now formed by the upper side of the bony trapezium. The distance between the two pubic bones after the operation varies from $^{1}/_{8}$ of an inch to an inch according to the breadth of the bony wedge.

2. The skin incision is the same as in the first method, but instead of cutting a wedge-shaped piece out of the pubic bones the latter are divided vertically from their upper border as far down as a point on a horizontal plane with the center of the symphysis, the two vertical incisions being subsequently united by a horizontal cut. In this way a rectangle of bone and periosteum is obtained, the horizontal sides of which are from $1^{3}/_{8}$ to $1^{4}/_{8}$ inch long, while the vertical sides are equal to half the height of the symphysis. The quadrangular piece of bone having been detached and turned upwards, symphyseotomy is performed according to the ordinary method by dividing the lower half of the symphysis pubis. The wound is then plugged with iodoform gauze. After delivery the rectangular bony segment formed by the upper half of the symphysis pubis is made to slide in between the articular surfaces of the lower half of the pubic bones previously deprived of their fibro-cartilaginous lining.

To insure stability, the displaced segment is wired in its new position and fixed to the remainder of the pubic bones on either side with steel pegs. It is possible, however, that silk or catgut may answer the purpose.

The Effect Upon the Nursling of the Mother's Diet.—The feeding of infants on artificial foods is a growing evil for which, although they inveigh against it, physicians are in a large degree responsible. Efforts are made to explain the evil away on such grounds as the desire of the mother to avoid the inconveniences of her natural duties; or of changed conditions of life causing inability to furnish food in sufficient quantity, if at all, or of deficient quality of the mother's milk, or other conditions, for all of which the mother is responsible. These conditions do exist in a greater or less degree, but aside from actual and acute disease, the maternal conditions may be tersely summed up in the statement that the mother is unwilling to make the sacrifices necessary if she performs her duty to her child. The responsibility of physicians lies in weakly conceding to the patient's desires, in place of strenuously insisting upon the mother's every effort to carry out the provisions of nature.

In these days of milk foods, prepared foods, substitutes for mother's milk, etc, mothers do not understand that the nature which provides organs for bearing children, also provides organs for nursing children, and intends that these organs should be for use rather than ornament. She does not realize that the products of modern science at best are but poor substitutes for the products of nature. If the physician would insist upon the mother performing her natual functions despite her assertions that she "cannot nurse the child," "never could nurse her children," 'didn't have milk enough," "nipples too small or too tender," or "milk left her in two or three months," etc.—if the physician should insist, and the mother persist, both would be surprised to find that long abused nature would still be willing to do her proper work. Patient endurance of discomfort, persistent effort, and proper food will eventually demonstrate the ability to nurse their infants, in nine out of every ten mothers who assert the necessity, in their individual cases, for "bringing up the baby on the bottle." And that, too, without scouring materia medica for imaginary galactagogues, and likewise to the very great benefit of both mother and infant.

During his six years' service at the Preston Retreat

Dr. Joseph Price gave the medical profession, through that institution, some most valuable object lessons in obstetrical science There was no secret in the methods used to make that institution the model maternity of the world, so far as professional results are concerned. His guiding principles were care, cleanness, and common sense. The strictest supervision of every detail, scrupulous practical cleanness and not so much of theoretical cleanliness, and simplicity in all matters, enabled him to complete his service with a mortality record never equalled in private or public maternity work. It was a law with him "to allow the mother to bear her own children," and it was equally the rule to require each mother to nurse her own infant during her stay in the institution. So very rare were exceptions to this rule necessary, that a nursing bottle could not be found in the entire institution. The patients in the Retreat were in no respect an exceptional class, save in the fact that so large a proportion of them were ill-nourished and impoverished in physical health when they entered the hospital—conditions which would entitle them to claim inability to nurse infants. Another fact of interest was noted, namely, that many mothers, who while in the house furnished abundant food-supply, and left the institution with thriving babies, would, after leaving, put the baby on the bottle as a matter of personal convenience, and in a surprising proportion of such cases would lose the babies within a few months.

The moral to be drawn is that almost every woman who can bear a child can nourish it. Attention to the body functions, generous supply of simple, nourishing food, and early and persistent efforts to establish and develop the mammary secretions were the only methods used to secure these result. In general practice the physician is too apt to give up the contest too early or to rely upon some form of stimulants to the glands, which eventually proves delusive if not injurious. It is a common practice to administer alcoholic beverages in the form either of ale, beer, or porter to nursing women for the purpose of increasing the milk supply. Beyond question these articles are capable of doing much injury to both mother and child, and there indiscriminate employment for such purposes should be interdicted.

Dr. J. W. Byers, in the *Annals of Gynecology and Pediatry*, has made some pertinent remarks on this subject. He says: "The truth is, in this practice of using alcoholic drinks the profession has followed the customs and whims of the laity, rather than the usual process of instructing and leading the latter. That there are conditions and circumstances in which the administration of malt liquors is of decided benefit to both mother and child, no one will undertake to gainsay. But that they are indicated in every instance of deficient lacteal secretion, or that the exigencies of the case ever render necessary their use to the extent as is commonly employed, none can maintain or justify. The promiscuous and general practice of using malt liquors by nursing women is irrational, does a vast amount of harm, and often causes disease in the suckling. We know that the mammary gland, for all practical purposes, may be considered as an organ possessing functions of a twofold or mixed character, namely, secretion and excretion. Under normal physiological conditions the first of these processes is in almost exclusive operation, though, as shown by experience, the slightest alteration in the condition of the organism, whether of an emotional, medical, or dietetic character, may so change this secretion that it becomes to all purposes and effects an excretion, and an innocuous, healthy pabulum for the child is converted into a deleterious or poisonous substance. Experience is very general in showing that the milk fats and albumins in increased proportions have a decidedly injurious effect upon the digestion of the infant when taken into the stomach in excessive quantities. From a number of experiments conducted by Zaleski he found these substances in the milk in excessive proportions whenever the mother had partaken of alcohol. In each case where the mother was tested with malt liquors, the fat and albumin appeared and caused more or less disorder and distress of the digestive apparatus of the suckling. These deleterious influences, however, were not the worst. Analysis of the milk further revealed the fact that it actually contained alcohol and the microorganisms peculiar to malt liquors; that the liquor drank by the mother actually passed out *in toto* through the mammary gland and on into the child's stomach, and there produced all the phenomena incident to digestive disorders and febrile disturbances. These facts point to the belief and support the attitude, that the mammary gland under certain conditions exercises the function of an excretory organ, and that under some circumstances it becomes nothing more than a filter through which the food and drink taken by the mother passes directly into the stomach of the child. This being true, we are in a position to understand and appreciate the importance of the relation of the diet of the mother and the well being of the child. When we prescribe alcohol for the mother, we at the same time do so for the child. The diet of the mother is a stage in the milk-producing process, and the milk she produces, is, in every instance, the result, and only the result, of the food of which she partakes. If it be improper, unsuitable, or contaminated, the milk will express this in a proper ratio. In the case that beer or ale is administered it will find this outlet, and while it does not evidence deleterious influences to the extent of producing the worst results in the form of either colic, indigestion, or diarrhea, in every instance its effects are present, and these are always among the possible results of its use. The effects of fat and albumin, when present in breast milk in excessive proportions, in producing evil effects on the child are too well upon. That the more severe of stomach disorders—gastro intestinal catarrh, enteritis, or even cholera infantum—are due to these substances, as a result of the abuse of malt liquors in the mother, is certain, though such is not generally ad-

mited or recognized. Take care not to advise a woman whose milk supply is reasonably full to resort to beer or other liquors in order to increase it. Always impress upon them the increased risk to the child incurred by using them."—*Medical and Surgical Reporter.*

NOTES AND ITEMS

Poison in the Chalice.—Controversy over the individual communion cup still rages. A correspondent of the New York *Sun* suggests that if religious sentiment or belief requires that "in order to carry out our Lord's order, separate chalices should not be used, it seems to me that the scientific objection to the single chalice might be removed by providing each communicant with a glass tube through which to partake." And adds that "any one objecting to this method on the ground of worldly association could hardly possess a mind pure enough to entitle him to the privilege of the holy ceremony."

Eczema of the Hands in Surgeons.—At the Twenty-third Congress of German Surgeons, according to a report published in the *Gazette Hebdomadaire de Medecine et de Chirurgie*, Dr. Lassar stated that, in his opinion, the eczema of the hands frequently seen in surgeons was produced by antiseptics, which, although they caused cutaneous alterations which were hardly appreciable, were yet sufficient to explain the particular sensibility of the skin. This, he thought, was the reason of the frequency of relapses. As to the treatment, all that was needed to cause the eczema to disappear was to change the antiseptic often. As a preventive, he recommended rubbing the hands, after washing them with soap, with a mixture of equal parts of vaseline, lanolin, olive oil and glycerin. Dr Rotter recommended an ointment composed of from one to two parts of formol, one hundred parts each of zinc oxide and talc, and two hundred parts of vaseline.—N. Y. *Med. Jour.*

A New Hospital, "am Urban," which represents the progress made within the last decade in the department of hospital-hygiene, has been erected in Berlin. Dr. A. Hagemeyer has published a description of this hospital, of which the *Vierteljahrschrift f. Gerichtl. Medicin und Offentliches Sanitatswesen*, speaks as follows:

"Not only the thoroughness and the systematical manner with which this description has been treated, but especially the firm emphasis which the actual questions of the building and management of the hospital have received, make it worthy to serve as a model. In the way the questions are treated, every one occupied with similar matters will derive the greatest benefit on the subject as to the arrangements of baths, the house for operations, the closets, heating and ventilation, the water-works and their arrangements, and a number of matters as to the organization of the management, and the regulations as to service. The manner in which the work is gotten up—especially the execution of the entire plan and 55 illustrations—are satisfactory in every respect in a high degree.

Arterial Catheterism.—In the *Progres Medical* there is an article on this subject by Professor Severeanu, of Bucharest, who says that he thinks he is the first one to propose the practice of introducing a catheter into an artery in certain cases. He has practiced it in cases of gangrene due to embolism, as an adjunct to amputation of the mortified parts. The procedure consists simply in inserting a small flexible catheter, rendered thoroughly aseptic by means of alcohol and carbolic acid, its whole length into the lumen of the artery by means of to-and-fro movements. When the blood begins to flow alongside of the catheter the latter is withdrawn and clots are then ejected from the artery so that the course of the blood circulating in it is re-established. The capillary hemorrhage from the flaps then becomes more abundant and the tissues assume a brighter hue. To this procedure the author attributes it that he has ceased to encounter gangrene of the flaps and has obtained their union by first intention. Sometimes, he says, owing to adhesions between the clot and the wall of the artery, it is impossible to make the instrument penetrate the artery, and in such cases it is not uncommon to see a portion or the whole of the flap become gangrenous.—N. Y. *Med. Jour.*

The Thermogen.—A pressing requirement of the surgeon and physician is a ready means of applying a moderate constant heat to a patient, whether on the operating table or in bed. The hot water bottles, beds, etc., at present in use leave much to be desired. They are clumsy, dirty, sloppy, unwieldy and inefficient. The Thermogen promises, however, to overcome all the objections urged against other appliances for the application of heat. In outward appearance it is merely a cushion, or wadded quilt, that can be adjusted with ease and wrapped round any portion of the body; but it contains an insulated wire of special alloy, covered with a fire-and-waterproof composition. This insulated wire, on being connected with any convenient source of electricity, immediately becomes hot, and imparts its warmth to the whole surface of the quilt, and thus any required temperature can be maintained for any length of time, or the heat can be regulated by a small attachment. Another form of this invention is that of a waterproof poulticing cup, by which a hot poultice can be kept constantly applied to the patient, without the constant changes now required. The value of the Thermogen will thus be evident to every practitioner. In houses where the electric light is laid on, the appliance can be readily connected with the electric circuit by means of a flexible coupling. But where electricity is

not otherwise available a special portable set of accumulators is applied. The Thermogen attracted much attention at the recent Museum of the British Medical Association at Bristol, and we anticipate that it will be widely adopted. The inventor is Professor Snedekor, of Boston, Mass., and the invention is being manufactured and sold by Messrs. W. T. Glover & Co., of 39, Victoria Street, Westminster.—*Medical Times and Hospital Gazette.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Intestinal Intussusception.

BY VET. MAJOR W. S. ADAMS, REMOUNT DEPOT, HOSUR.

An Australian gelding in poor condition, but improving, and with no previous history of ill-health, at about 10 A.M. on July 10, was observed to be restless and to be showing symptions of abdominal pain; he was treated for colic but there was no cessation of pain. I saw the horse at about 11.30, he was then in constant acute pain and sweating, especially about the flanks; the temperature was 105. A small quantity of feces had been passed with the first enema, but subsequently each anema was rejected clear; the pulse was rapid, small and wiry, the visible mucous membranes were injected, and it is remarkable with what rapidiry the color deepened. There was no tympany or distension of the abdomen but on the contrary the horse had a remarkably "tucked up" or drawn appearance. There was an anxious expression, and the horse, when up, stood with his head pro truded; after moving round the box he would collect all four legs under him and go down suddenly. If com pelled to walk he moved with a crouching gait, with the hind limbs drawn under him. When down the horse did not assume any particular position, there was no sitting on the haunches or lying on the back, but he would frequently turn violently over. The symptoms gradually became aggravated, the pulse imperceptible, the expression pinched and haggard, the surface of the body was bedewed with a cold sweat and the extremities were cold. The horse died at 8 A.M, July 11, 17 hours after the first attack.

With regard to treatment. The horse was at first treated for colic and was given a laxative, subsequently all treatment was directed to allay the acute pain and to subdue the violence show. The extract of cannabis indicus was given in two drachm doses with excellent effect.

Post-mortem examination.—On exposing the abdominal viscera the small intestines were seen to be inflated with gas, whilst the large intestines were almost empty. On searching the small intestines in situ, I found what appeared to be a stricture. After placing a ligature above and below the constricted portion, I removed the part for examination. This proved to be an intussuception of the ileum, the inverted portion was of great length, measuring nearly two feet, the extremity was lacerated when force, only sufficient to withdraw it, was used. The horse was not a healthy animal. The liver was large and soft in structure, weight 18 lbs. The villous coat of the stomach showed signs of disease, and appeared as if eaten away in parts, it had quite lost its natural velvety appearance.

Remarks —I am at a loss to attribute this intussusception to any definite cause. I do not think it could have been a sudden occurrence, but it was probably a gradual process brought about by perverted peristaltic action. If this could be due to indigestion the state of the liver and the stomach would be sufficient to account for it. The horse was in poor condition, but at the time of attack he was improving and had increased in weight. He was fed lightly with grain, but had a liberal forage allowance; his exercise was confined to walking. These cases and others of a similar nature are eminently unsatisfactory. From the state of the pulse, the condition of the visible mucous membrane, the constant pain, the cold sweating etc. together with the general progressive aggravation of the symptoms, we are led to the opinion that the case is hopeless. That there is serious intestinal obstruction we know from the fact that no feces are passed, but when we desire more accurately to diagnose the condition we have to treat we find it a matter of great difficulty and uncertainty. I have searched for records of similar cases and with their aid, perhaps, the case I have now recorded may add its quota to former observations.

From various professional publications I have unearthed nineteen recorded cases of strangulation or of invagination of small intestines.

With regard to elevation of the temperature as a symptom, it will be observed that in the above case 105 was registered. I find in the majority of cases recorded that the temperature has not been noted, but in six cases it has been given at 100.2, 100 4, 104, 103.2, 103.4 and 103 degrees, this would tend to show that we may expect a degree of fever.

The presence or absence of abdominal tympany is another interesting point. I find in the 19 recorded cases that tympany was said to be present in only one case, and two of the patients were said to have been "tucked up." Of six similar cases affecting the large intestines tympanitis was recorded as a symptom in three cases.

With regard to the duration of the disease from the

time of attack till death, I find that when the small intestines are affected, the average is about 21 hours, and when the large intestines are affected the time is longer, being about 37 hours.

From these notes I think the following inferences may be fairly drawn:

1. That in these cases we may expect to find a rise in temperature, which may be considerable.

2. That in cases of obstruction of the bowels due to strangulation or to invagination of the small intestines, although other symptoms may be similar, there is, usually, an absence of abdominal tympany, which absence is sometimes marked, whereas when the large intestines are affected, tympany may be expected.

3. The progress of the case is more rapid, and death takes place more rapidly when the small intestines are affected.

Fracture of the First Dorsal Vertebra.

Through the kindness of a neighboring practitioner I am able to report a case presenting some remarkable symptoms. On Monday last I was shown a bay gelding in a loose box. It was standing somewhat stiffly with the head elevated, the hind feet rather behind their normal position, and the tail extended but in constant motion—a sort of involuntary quivering. The off eye was injured, and the near side of the neck, opposite the third and fourth vertebræ swollen slightly. The jaws were partly fixed and the mouth could only be opened about two inches. The *membrana nictitans* was not protruded or the case would have resembled one of tetanus. When moved the horse turned stiffly—all in a piece—and the hind quarters seemed wanting in proper co ordination.

The history of the case was that for some injury to the lip a blister had been applied and the animal left for the night tied up by a rack chain, to prevent him lying down or getting at the blistered part with his teeth. The night man says nothing was amiss when he passed at 4 A. M., but at 6 o'clock the horse was found cast with the neck bent and the head under the off shoulder.

Diagnosis—Fracture of fourth cervical with very little displacement.

The horse was slaughtered on Wednesday, as the constitutional disturbance was increasing and signs of paralysis of the posterior extremity were setting in.

A post mortem disclosed some slight laceration of the cervical muscles on the near side in the region of the fourth vertebra, but no injury to the bone. The first dorsal was obliquely fractured, so that the spine and upper part could be easily moved backwards and forwards upon the body of the bone. Slight hemorrhage and a good deal of effusion surrounded the fracture, but there was little displacement of bone. What caused the trismus is not easy to guess. The movement of the tail is, in my experience, indicative of spinal injury, but it is remarkable that no more evidence was given of paralysis thad I have stated.—W. H., in *Veterinary Record.*

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is guaranteed to cure Piles and Constipation, or money refunded. Fifty cents per box. Send two stamps for Circular and Free Sample to MARTIN RUDY, Registered Pharmacist, Lancaster, Pa. No Postals answered. For sale by all first-class druggists everywhere. Meyer Bro's Drug Co., Wholesale Agents, St. Louis, Mo.

CASCARA SAGRADA FOR THE ELIMINATION OF URIC ACID.—It seems to be the accepted opinion that the pathology of uric acid is more a matter of defective elimination than of excessive formation. Osler says, "certain symptoms arise in connection with defective food or tissue metabolism, more particularly of the nitrogenous elements; and this faulty metabolism, if long continued, may lead to gout, with uratic deposits in the joints, acute inflammations, and arterial and renal disease."

Not getting the desired results, I was led to drop all the so-called antilithics, and rely simply and solely upon a single remedy—Cascara Sagrada. Repeated trials have convinced me that the faulty metabolism is more quickly remedied with this drug alone than with any other or combinations.

Mrs. G., aged fifty-five, was for years subject to uric-acid storms, and without getting relief. I exhibited the aromatic fluid extract Cascara made by Parke, Davis & Co., in ten- to fifteen-drop doses, two or three times daily as demanded, finally sett ing down to one single dose at the close of the day. The effect was not at once apparent, but within two weeks there was marked amelioration of the aggravated symptoms, and in four weeks the swollen joints had almost resumed a normal appearance, the soreness having nearly disappeared. At this writing (two months having elapsed), there is no complaint whatever, but the remedy is continued. No change was made in the diet, as I desired to more fully test the remedy, and am fully satisfied that the good results were due to the Cascara. I have tried other brands of Cascara, but they have not been satisfactory, hence I have come to regard the fluid extract above alluded to as the only one upon which I can confidently rely. It never fails, hence my preference.—Dr. W. H. Walling, in the *Medical and Surgical Reporter*, July 14, 1894.

WM. R. WARNER & Co., Philadelphia, received a silver medal at the late International Medical Congress at Rome—a compliment richly deserved by this well-known firm, who are pioneers in the manufacture of sugar-coated pills.

ONE OF THE MOST interesting exhibits at the sixty-second annual meeting of the British Medical Association was that of Frederick Stearns & Co , of Detroit, Mich., which adjoined that of Thomas Christy & Co., who act as the firm's agents in this country. The center-piece of the stand was a small tube containing a pale brown substance in tiny crystals, to which has been given the name of "Panjecorine." The substance consists of the alkaloids of Cod Liver Oil, and is the result of the labors of MM. Gautier and Morgues, two French chemists, who have spent a considerable amount of time in Cod Liver Oil research. The principle alkaloid in the oil is Morrhuine; next comes Aselline. Up to the present it has not been found possible to separate the alkaloids, which are here shown in combination. It is claimed that "Panjecorine" possesses two thousand times the strength of the ordinary Cod Liver Oil. Cod Liver Oil preparations are among the leading articles of Messrs. Stearns & Co., and in the firm's "Wine of Cod Liver Oil," which is also shown, the question of producing an absolutely palatable article, containing 25 per cent of oil, as represented by its active medicinal constituents, has, it is said, been solved.—*Chemist and Druggist.*

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MEDICAL REVIEW.

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ORIGINAL ARTICLES

Female Hospital Cases.

BY R. M. KERLEY, M.D.,

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Compiled by M. R. HORWITZ, M.D., Assistant Physician.

CASE I.—TUBERCULAR SYPHILIDE.

Minnie B., aged 24; nativity, Maryland; occupation, prostitute; admitted to hospital August 28, 1894.

Family History—Father is living and sickly (does not know its character); mother died twenty years ago of phthisis pulmonalis; one sister is healthy and one phthisical, one brother is afflicted with palsy agitans and one healthy; one sister and one brother died when she was a child; does not know the cause of death.

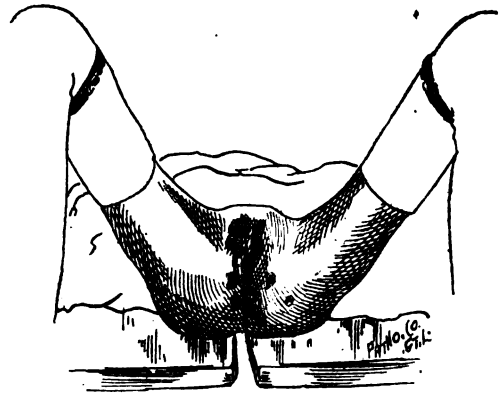
Previous History—Had all diseases peculiar to infancy but was perfectly well since until about two years ago when she was infected with her present trouble and several attacks of gonorrhea.

The present condition, she says made its appearance on the inside of the vulva as a small sore and treated it with calomel to which it yielded. Her menstruation soon became irregular and became leucorrheal; has been having diarrhea and general malaria. She claims to have been taking antisyphilitic treatment for about eight months, also tonics and antiseptic washes for her bowels and genitals, but as it did not cure it gave it up.

The present lesions on her body, she says, broke out about five months ago, first on the anterior surface of the left forearm as a small spot, and kept on spreading until the size of a silver dollar, then on her left foot and all over her back, on the left shoulder, over the left side of her nose, and spread over both cheeks, including nose, lips and chin, covered with scabs and discharging a stinking exudation. She has been dusting the scabs with calomel to which some spots have yielded, the scabs fell off and left a reddish glistening surface. As she got tired of treating herself she entered the hospital for treatment.

Physical Examination—Nothing abnormal about chest or abdominal organs.

Urinalysis—Normal.



Upon examination the lesions reveal lesions of a brownish-red color possessing a glistening surface of irregular shape, some circular, others semi-globular; in size they vary as most of them consist of a cluster of tubercles with crescentic edges, the lesions being scattered all over the body; two large clusters of tubercles on the back, one near the center, and one—the larger one—near the left shoulder and extending as low down as the tenth rib. On some of the lesions, especially on the anterior side of the chest and forehead, the crusts are still adherent to the surface.

An examination of the genitalia reveals a similar condition of the entire vagina.

The rectum shows ulcerations as well as a stricture.

Diagnosis—Tubercular syphilide with an ulceration of the vagina and rectum.

Treatment—Mixed treatment, *e. g.*, protoiodide of mercury (Dr. Keys' tonic treatment) and K. I, beginning with gtt. x, three times daily, and increasing one drop each time.

Case II.—Phagedemic Ulceration.

Lucy B., aged 30; nativity, St. Louis; single, and a servant by occupation. Admitted to hospital August 28, 1894.

Family History—Has been away from her home for the past fifteen years, therefore can not give a satisfactory history relating to her family.

Previous History—Has had all diseases peculiar to infancy and childhood; had pneumonia about twelve years ago; typhoid fever three years ago; was perfectly healthy until about two years ago when she was taken sick with malaria, palpitations of the heart and developed external hemorrhoids and uterine trouble; was treated for a few weeks and gave it up as she thought herself well when she was taken sick with rheumatism and suffered about a year.

Hygiene—Poor.

Present trouble began about a year ago with the appearance of a small papule on the external surface of the genitalia and disappeared after a few days. The appearance of warts on the inside of the genitalia was the next thing she noticed, and was treated by a physician with applications but was not entirely cured.

The present conditions appeared about May, 1894, at the site of the old sores and spread inwardly; she used some sugar of lead and blue stone applications without apparent benefit, so that it disgusted her, and she entered this institution on August 28.

Physical Examination—Inspection shows poorly-nourished. Auscultation: Sonorous and sibilant rales on both sides of chest anteriorly and posteriorly.

Percussion—Normal. All other organs normal.

Urinalysis—Normal.

Examination of the genitalia shows an extensive ulceration of a phagedenic character of the entire vagina and the entire floor eaten almost through the anterior rectal wall, the urethra being encircled by the ulcera tive process that it is bulging out for about three-fourths of an inch.

Diagnosis—Phagedemic ulceration of the vagina.

Treatment—Cauterization with a saturated solution of chromic acid every other day and protoiodide of mercury internally.

Case III.—Tubercular Arthritis and Pulmonary Tuberculosis.

K. B., aged 21, single; nativity, Germany; is a servant by occupation, and has been a resident of St. Louis for the last three years.

Patient entered the hospital last March suffering from an attack of acute articular rheumatism. She recovered sufficient (she supposed) to be discharged in April. However, at this time her left elbow joint was swollen, red, slightly painful, and was carried continually at an angle of 100 degrees. The limb was supported in a plaster cast, and she refused to have the joint aspirated. On July 3 she returned for further treatment. The joint trouble had increased, was more painful on manipulation and motion; the extremity was absolutely a complete burden. At this time she consented to be aspirated and if necessary any operation that would possibly improve her condition was permitted. The limb was cleansed, shaved, and a two and a half per cent carbolic poultice applied, the poultice being renewed in twelve hours. The following day the patient was anesthetized and trocar introduced, permitting the escape of pus, and an incision was made about four and a half inches long immediately over the olecranon process down to the joint. Upon opening this the bone was found necrosed, the periosteum was raised and retracted with the tissue and about 2 1 2 inches of the humerus and the head of the radius was removed so far as any evidence of disease; the hemorrhage was checked with an eight per cent solution of chloride of zinc; four sutures were introduced, two above and two below, leaving an opening at the angle for drainage; the wound healed by primary union where the sutures were introduced; often repeated dressings and a free use of iodoform and an occasional injection of Vallet's solution resulted in a complete and healthy closure of the wound as evidenced by accompanying cut. The edema, redness and pain

has all disappeared and the arm is used to-day without any inconvenience excepting the partial anchylosis.

The patient is bright and active, is unable to give any family history whatever, or anything as regards her early life; seems very well nourished; the skin is warm and dry; tongue is slightly coated, moist and red; appetite variable; bowels generally regular. The pulse is accelerated, of poor volume and tension; respiration 21 per minute and there is shortness of breath on exertion; the temperature this evening is 99.4. Has never had nightsweats or dysentery; her habits have been regular and hygiene excellent. Upon a physical examination the heart sounds were rapid, otherwise normal; a slight dullness over the upper lobes of lungs; large and small bubbling rales on auscultation; tubular breathing mostly perceptible between the scapulas; respiration was increased; chest is flattened; slight hectic flush in the cheeks.

Urinalysis—Normal.

Diagnosis—Tubercular elbow-joint and pulmonary tuberculosis.

Treatment—I am gratified to state and record a complete recovery as far as the joint affection was concerned, and feel justified in saying an improvement in her general condition with a decided benefit from the administration of beechwood creasote rapidly increased to tolerance in sherry wine, milk or oleum morrhea.

CASE IV.—PAPILLARY SYPHILIDE.

Sarah B , colored, aged 20; nativity, St. Louis; single, and a laundress by occupation; resides in a district suggesting poor hygienic surroundings. Entered this hospital August 30, complaining of an ulcer of the left leg.

Patient was unable to give any family history and stated that she never had any sickness in her life. Upon inspection of the ulcer numerous papules surround the lesion and all over the extremity. Upon examining the remaining members and the body, revealed a diffused papular eruption of three months' standing. The only note that had been given this trouble was an application of tr. iodine to the upper extremities several days ago. She positively denied that any primary lesion had ever existed, but thinks she had several suspicious intercourses about the 1st of April, and had no idea that this eruption was the result of specific infection.

Three weeks ago she received a slight injury where the ulcer is situated, and has never taken any special care of the lesion which has gradually become larger and more painful; it discharges a purulent fluid and is covered with exuberant granulations; it has a gangrenous odor which is so disagreeable that no one is able to remain very long in the ward with her.

A physical examination was made but no visceral lesion determined. A cicatrix on the left labium majus was evidence sufficient that the patient's statements were untrue.

Urinalysis—Normal.

Diagnosis—Secondary syphilis.

Treatment—Pil. hydrarg protoiodidi $^1/_6$ to $^1/_4$ grain, three times a day; also potassii iodidi, ℥ss, tr. nuc vomica, ℥iij, tr. gentian co., q. s. ad ℥iv. Sig.: Teaspoonful three times a day.

For the ulcer, Sennine powder dusted freely over it every second day after washing with distilled water, then bandaged.

Obliteration of the Superior Vena Cava.—According to the Paris correspondent of *The Lancet* (*Med. Record*), Dr. Merlin has published the details of a case of plugging of the superior vena cava—a very rare phenomenon; but what constitutes a still greater rarity is the recovery of Dr. Merlin's patient, who has since (a space of four years) remained well. His patient was a man, aged thirty four, who, after an effort, was affected with a swelling of the face which, spreading to the whole head, rendered it of an enormous size. The cheeks were puffed out, edematous, the eyes bulging out of the orbits, the lips (especially the lower) double the normal volume, the tongue swollen so that the mouth could hardly contain it, and articulation was difficult. The edema of the neck was great, the circumference having increased from thirty-nine to fifty-six centimeters. The jugular veins were dilated, and the establishment of collateral circulation was apparent from the presence of varicosities at the base of the neck. The edema was marked as low down as the base of the thorax, and the patient had attacks of dyspnea. The voice was cavernous, cough was frequent and deafness was complete. The upper extremities were much less swollen than the face or trunk. Below the umbilicus there was no edema. The patient denied having had syphilis. He was, nevertheless, ordered one drachm of potassium iodide *per diem*, with the result that considerable improvement began as early as the second day. The improvement continued progressively, and he was discharged in a month cured. As above mentioned, the recovery has been since (for four years) maintained.

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

All letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, should be addressed to 914 Locust Street, St. Louis.

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Unparliamentary Language.

We have before us two medical journals of equal merit and animated by the same commendable spirit. One of these journals is throughout profusely marked with blue pencil, intended no doubt to attract our attention to its most flattering remarks about the REVIEW; in fact, nearly one half of its pages are devoted to the REVIEW and written for our benefit exclusively.

The other, which, we are sorry to say, we missed among our exchanges, we had to borrow from a neighbor. This has pained and disappointed us; particularly since its editor is in the habit of forgetting the journal —accidentally of course—at saloons, restaurants and clubs, and therefore seems to have so many extra numbers for distribution outside of the profession; consequently it seemed strange to us that he should not have one to spare for those professional brethren whom he admires most.

Of interest is the nomenclature in these journals; one calls us a "bad man," the other uses the flattering epithets "yellow jackets," "gnats" and "pismires," which, with the rare sense of delicacy of its editor, is spelled with only one s.

Although we deplore that our esteemed contemporaries in their zeal to please and amuse us and the profession in general should so much forget their dignity as to condescend to unparliamentary language, we feel assured by this unmistakable sign of appreciation that, before long, we shall be found worthy to be dignified with the good-fellowship of at least one of the parliamentarians who, judging from past experiences, will undoubtedly honor us some day by the production of a faultless engraving in the journal so ably represented by him. Because it is a most commendable characteristic of this parliamentarian of first using such identical flattering epithets as are reproduced above, in speaking of his most esteemed confreres, and thereupon placing them in his picture gallery of eminent physicians.

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A surgeon of exploratory incision fame was called by this parliamentarian a "mephitis Americana" (American skunk), and now we are pleased to see that this very same gentleman is honored with the favorite epithet "brainy." Another surgeon, with whom the editor had a tussel in which he (the editor) came out second best, has later been found worthy to be placed in his gallery of great men. We consequently see a golden future before us.

As a rule it is an evidence of defeat and bad humor when names are called, especially when the adversary is compared to an animal. This seems to be the case of the editor of the *Mirror*. We reciprocate in the true Christian spirit by comparing him not to an animal, but to a flower: "He's a daisy!"

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We are pleased to note the improvement in the external appearance of the *Medical Mirror*. Its title page used to be adorned with a looking-glass, which suggested at the same time the wash-stand. It was a shabby genteel affair with rather loud but somewhat damaged portieres. This emblem was, of course, entirely at variance with the contents and the character of the journal. It looked somewhat undignified. Now we are pleased to see that the picture of a celebrated surgeon and book-shelves supporting voluminous books (suggesting the "larnin" of the editor) has taken the place of the piece of furniture. May be that it was the deficient quality of the glass in the mirror which used to cause obliquity and grotesqueness of the the former contents through errors of reflection and refraction; for it never could be made out satisfactorily whether the *Medical Mirror* was really a journal of medical wit and humor or whether it was to be taken seriously at times. With the new emblem it is to be hoped that the farcical and clownish element which so far have characterized the *Mirror* will give place to dignified and sober medical thought, befitting the profound intellect of its editor.

St. Louis Medical Correspondence in the "Journal of the American Medical Association."

In the last number of the *Journal* (September 29), there appeared a correspondence about medical news culled in this city. The fact is dilated upon that the "progressive" colleges have entered upon a year of unusual prosperity."

The name of the correspondent is not signed, but from the tenor of the correspondence and general make up, his identity is not hard to trace. It is a peculiarity of the professors of the "progressive" colleges to improve any opportunity to make propaganda for their "cause." Outsiders are apt to substitute "cheap" for "progressive." But then this is a matter of opinion and taste.

Rupture of the Uterus—Palliative versus Surgical Treatment.

Dr. Charles M. Green read a paper on this subject at the American Gynecological Society in which he said that these conditions when discovered must be treated as the gravity of the case presented, in relation to the extent of the tear and the state of the patient (N. Y. *Med. Jour.*). By palliative treatment in this class of cases was meant sustaining the patient by nourishment and stimulation, the use of antiseptics, and the arrest of hemorrhage by means of packing and so forth. Laparotomy had so many fascinations for the enthusiastic operator that many had done it after rupture; but it did not offer the good results that it seemed to. He reported several cases where recovery had taken place after rupture, under palliative treatment. One was in a multiparous woman, and one was that of a non gravid uterus that was being dilated, where the tear was quite extensive. This method was by far the best plan to adopt rather than to expose patients already in a dangerous condition to the shock of an abdominal section and the fallacious attempt to stop hemorrhage by suturing the uterus. The tear was usually a separation of the tissues in an uneven, jagged manner impossible of apposition, and the tissues were generally so friable that sutures would not hold if inserted. The palliative treatment consisted of compression bandages, cold irrigation, tamponing the rent with wicking and gauze and drainage. Laparotomy should never be attempted unless the issue seemed sure to be fatal and the child had escaped through the tear into the abdominal cavity and could not be extracted through the natural passages. Under such circumstances the abdomen should be opened, the child removed and the uterus sutured. To assist in securing contraction of the uterus after the extraction of the child, uterine massage, ice compresses and bimanual pressure should be used. Serious hemorrhage was always present in these cases, but a tampon properly applied was usually satisfactory. There was no need of irrigating through the rent into the abdominal cavity unless the contents of the amnionic sac had been emptied into it. What would be better would be the injection of a hot physiological salt solution into the cavity, from which absorption would take place and the volume of the blood be increased. It was a fact that the peritoneum was very tolerant of aseptic blood, and therefore there was no need to make much of an effort to get rid of it at once. He would make a final plea for general palliative measures to be given a fair trial in rupture of the uterus. Where the hemorrhage was uncontrollable, abdominal section would have to be resorted to.

Dr. Malcolm McLean, of New York, was satisfied that specialism had its dangers, and that the mad race of rivalry had dwarfed the minds of many and had therefore made it dangerous for patients. This statement could be applied to the operation of laparotomy for rupture of the uterus, where, in so many instances, life could have been saved by palliative measures which could have been applied by the attending obstetrician. Palliative treatment was the proper procedure in almost all the cases. The preconceived idea that rupture of the uterus required laparotomy was a very great mistake, for, with reasonable and judicious assistance, Nature did much to restore a torn uterus and check hemorrhage. Where recession of a presenting part took place action must be prompt, so as not to allow of the complete escape of the child and the formation of a large hematoma, which would greatly hinder the successful doing of a laparotomy if it was finally necessary. He reported a case where the child had been pushed through a rent with the membranes intact and surrounding and completely shutting out from the peritoneal cavity any fluid that would otherwise have escaped into it. There was no doubt that there was a distinct field for palliative treatment of rupture of the uterus.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Sept. 15, 1894, the President, W. B. Outten, M.D., in the chair.

* * *

The discussion of the following subject was announced by the Executive Committee: "The Effect Upon the Health of Communities of Gases and Odors Emanating from Sewers and Various Manufacturing and Merchantile Establishments."

* * *

Dr. I. N. Love was requested to speak upon the sub-

ject. He said that to his mind the subject was not one for discussion, as he could not conceive how there could be a difference of opinion in the matter. We are confronted by facts and conditions of effects produced up on communities by vitiated air, which may be verified in our daily contact with patients in practice and by laboratory research. There can be no doubt that pure air is essential to good health, and that air contaminated with foul gases is not pure, no matter what the source and character of the gas. Certainly, air charged with foul smelling gases is injurious to the system, as it carries infection directly into the system through the respiratory organs. Infection may also be carried into the system through a denuded surface, and by means of absorption along the intestinal tract. The latter fact is of importance with reference to the pollution, by sewage, of streams, of which the water is used for drinking purposes. We know that sewers are permanently and continuously inhabited by disease germs, such as those of diphtheria, scarlet and typhoid fever, and that these may be conveyed into the system by means of drinking water, in a dry state, through the air. Therefore, it would be better, considering the arrangement from a sanitary standpoint, if all connection with the sewer in private houses would be avoided. Vitiated air is injurious not only as a direct cause of the infection but, by gradually poisoning the individual, it reduces his powers of resisting other infectious agencies, and prevents his convalescence from other causes of physical depreciation.

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Stated Meeting, Saturday Evening Sept. 22, 1894, the President, W. B. Outten, M.D., in the Chair.

* * *

Dr. H. C. Dalton presented a specimen of "Ovarian Pregnancy," removed from a patient 27 years of age.

Patient began to menstruate at the age of 15, had gonorrhea seven years ago, since which time menstruation has been irregular; five years ago she had a miscarriage; has had no children nor other miscarriages. She was very nervous and hypersensitive at the time of examination, temperature was 100.5° F., pulse 110, and she had had several slight chills during the few days previous.

Upon bi-manual examination, which was so painful as to require an anesthetic, a mass, about the size of a goose egg, could be outlined in the right iliac fossa. These symptoms, together with the impression gained from the patient that she had menstruated several times monthly during the last few mouths, led to a diagnosis of pyosalpinx. The impression gained from the patient was found to be incorrect, as it was determined upon further questioning, that she had missed the menstrual periods since July 1.

At the operation the mass could be easily peeled out, but this was accompanied by considerable hemorrhage. The tumor was ligated at the uterine end with little difficulty, and no drainage nor irrigation was employed. The patient's temperature to-night is 99°, pulse 80, and she is comfortable, save for a slight backache, a symptom common after most abdominal operations.

Dr. Hugo Summa said that this is a very rare specimen, according to the literature on the subject. Tubal pregnancies are most frequent, secondary abdominal pregnancies second, and ovarian pregnancies of rarest occurrence. In this specimen the tube and its fimbriated extremity remain intact, but the ovary is almost completely absorbed, merely a shell remaining.

Dr. T. F. Prewitt considered the mistake in diagnosis excusable in this case, especially when we consider the history of previous existing gonorrhea and menstrual irregularity, and the pain and rise of temperature. Lawson Tait says that a diagnosis of tubal pregnancy could not be made before rupture. This is probably going too far, and a current history of this patient's menstruation would have led to a suspicion of the existing condition.

The speaker recalled a case presented to the Society about a year ago, in which he had made a diagnosis of tubal pregnancy prior to operation. In that case—a woman who had been married two years, but who had had no children—there had been cessation of menstruation for six weeks, followed by a sharp pain in the iliac fossa and a free discharge of blood lasting three weeks. Upon examination, distinct evidence of endometritis could be found, and a boggy mass could be outlined in the iliac fossa.

As to the occurrence of ovarian pregnancy, there exists a difference of opinion on the subject. Mr. Tait denies the possibility of that condition. In the speaker's opinion the case presented is one of pregnancy occurring in the outer extremity of the tube, as there seems to be a cystic ovary attached to the under surface which could be separated from the tube proper.

Dr. T. C. Witherspoon considered the specimen of special interest, it being similar to a condition seen by him two years ago. Ovarian pregnancy is denied by many, and probably the only authenticated case on record is owned by Dr. Joseph Price. Personally he considers ovarian pregnancies very doubtful, as he did not think that the tube ever grasps the ovary. The Graafian follicle ruptures, the ovum is extended into the abdominal cavity and thence passes into the tube. Fecundation would, therefore, be impossible before the ovum had been discharged into the abdominal cavity.

Dr. Jacobson recalled a case of tubal pregnancy diagnosticated before operation, in which electricity was employed with a view of killing the fetus, but unsuccessfully. It was removed by operation ten days later.

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The discussion of the subject, "The Effect Upon the Health of Communities of Gases and Odors Emanating from Sewers and Various Merchantile and Manufacturing Establishments," was resumed as a special order of business.

* * *

Dr. H. C. Fairbrother had made observations upon this subject some fifteen years ago in East St. Louis,

but failed to condense the facts into a systematic report. Rendering establishments used to be very abundant in East St. Louis, and were a great nuisance until the haul ing of dead animals through the streets of that city was interdicted by the authorities.

Dr. T. F. Prewitt thought that a distinction ought to be made between odors and infection. While bad odors might be a very disagreeable thing to a community in which they occur, it is questionable whether they are injurious to the health, although they would seem to be so. He mentioned the fact that medical students could work in the midst of foul odors and not become affected by them. They might even have an exposed wound and not become infected. This condition is entirely different however, when the collated materials are brought into actual contact with the body. While the possibility of infection through contact with foul gases might be questioned, it has been absolutely demonstrated that polluted water—such as that containing the typhoid bacillus—may produce disease. The question of impure drinking water, therefore, should receive thorough consideration, especially since people will continue to use water from wells, providing it has no odor, in spite of their having every reason to believe that it is impregnated with disease germs.

Dr. R Funkhouser believed that this subject could not be properly treated in a discussion in one evening; nor could a practicing physician devote the proper amount of time and study to it without neglecting his patients. There are so many different kinds of establishments of this classs, and so many chemical changes taking place, that in order to be properly treated the subject must be approached by different paths and by different individuals.

In his opinion, an investigation of this kind should be conducted by the city through its various officers, physicians, sanitary commissions and chemists. The air should be examined microscopically and chemically for all the different nitrites, ammonia, the results of the presence of animal matter, hydrogen, phosphites and phosphoretted and sulphuretted hydrogen.

One is struck, however, in looking over various au thorities upon this subject, including Parks, at the un animity with which they come to the conclusion that persons working in these different factories are very little inconvenienced physically. There are many exceptions, however; instances where such substances pro duce irritation of the intestinal tract and undermine the health generally. These instances of deleterious effect upon the health of communities, aside from the dis agreeable features of the odors, make it imperative that the subject be investigated and the nuisances abated.

Dr. S. Pollak was inclined to think that the subject is one for engineers and chemists, aided, of course, by physicians in their department. While the odors from these various establishments might be very disagreeable, he had never noticed any bad effect upon the health of communities. He recalled the instance of a district west of Grand avenue, known as "Butchertown," which was so loudly condemmed several years ago. Although the odors were very unpleasant, in this case, the butchers were perfectly healthy. The subject of garbage disposal and pure drinking water are of very great importance. The doctor is in the habit of having all the garbage at his home incinerated in the kitchen stove, a method of disposal which he has recommended to some of his patients. It has proved quite satisfactory.

Mr. Judson being called upon briefly related his experience while acting as a member of the St. Louis Sanitary Commission appointed to examine their works. The method used by them is known as the Merz Vienna system. The garbage is first introduced into long steam-tight boilers fitted with an air-tight iron cap. It is al lowed to remain in these "dryers" for several hours, being constantly stirred by mechanical stirrers and subjected to steam of about 500° F. and at a pressure of 85 pounds, which is supplied by boilers 75 feet away. From these "dryers" the garbage is passed into large tanks and treated for the extraction of oils, after which it is sifted; the bones, metals, cans, etc., being cleaned out, and the refuse being used as fertilizer. The "dryers," however, are connected with suction pans, which draw off the gases as rapidly as they are formed. These are then passed through iron tubes, called the scrub, through which a lot of water is playing. The idea of this is to cool the gases in the first place, condense those which are condensable at atmospheric temperature, and to dissolve all those which are soluble. The water used in the scrubbers is passed directly into the river. The non-condensed gases are drawn off and pass through tubes into the boilers and finally into the conbustion chambers of the furnace.

Speaker endeavored to determine what the products of this garbage fermentation are, which gases are volatile at the temperature employed, and which gases are not condensable and pass into the furnace, but he failed utterly to do so. Of course, the materials treated vary a great deal in accordance with their source and with the seasons, but there are at all times some products of fermentation and decomposition present. Besides the ordinary products of decomposition, the writers tell us there are several unknown compounds, and it is just these unknown substances that are the ones which are so offensive.

In the speaker's opinion the method in use here can be made almost perfect. In the first place the machinery must be constructed perfectly and work well. Then the combustible gases must be raised to a temperature sufficiently high to ignite them, after which a sufficient amount of oxygen must be supplied to support the combustion. The products of this fermentation are mostly hydro-carbons, and they are certainly combustible and will be consumed if we will but remember that different gases require different temperature for their ignition.

In answer to a question by Dr. Prewitt, the speaker said that it is probably the sewer which is accountable for a great deal of the odor around the reduction works.

The plant is located in what is almost a cess-pool, and it is also very poorly surrounded. There are fumes escaping from the sulphur used in suffocating dogs in the pond; pork-houses discharge all sorts of refuse material into the pool; and the breweries inject large quantities of steaming water into this mass. The past season has been a very dry one, and the sewers are not sufficiently flushed by the water injected into them by factories and other sources. This probably, accounts for the great volume of gases and has given greater cause for complaint.

Mr. Chauvenet had not given the subject much consideration until two years ago when his attention was called to it. The disposal of refuse material of all kinds is daily becoming of greater importance in the larger cities, and different experiments have been tried with varying success. It is creating a nuisance in London, Paris, New York and other cities. The method employed in New York, of dumping the refuse ten feet above sea level on an island, was not approved. Berlin had failed with her garbage farm; London has met with no success in the matter; garbage is thick along the coast of Scotland; and New Jersey is up in arms because New York is burning her garbage along her shore.

The indifference displayed by Americans in regard to the disposal of garbage must stop. It is very pleasant to sit down to a good meal, but some attention should be given to the proper disposition of refuse. We should see to it that the condition of the back yard is more in keeping with the appearance of the front of the house. It is time that civilized communities were doing something in this matter, and we should no longer be obliged to drink the water of streams into which we pour our filth.

Speaker thought that Strathman, Buch and Rohan are the best writers on the subject. Buch especially, gives numerous instances of rendering establishments such as those mentioned by Dr. Fairbrother, and concludes that, far from being unhealthy to the men participating in these operations many delicate men actually regain robust health by going to work in these establishments. It is probably natural why a man breathing the unctious atmosphere of a soap factory should grow fat, but why anybody in a glue factory should thrive is not so easily comprehended. An exception is made by this author of glue factories, where the liberation of sulphide of carbon causes suppression of the urine and consequent severe illness.

In answering a question by Dr. Pollak, the speaker said that a physician in Minneapolis had introduced a kitchen stove for burning garbage. There is no objection to this method of disposal as long as it is confined to a few families But when the whole community uses them the air becomes charged with noxious gases and odors. Chicago is trying the hauling around of a little crematory through the streets, and when a certain amount of garbage is accumulated they stop at a convenient point and burn it. The owner of the premises then promptly objects and invites the unsanitary officers to move to some other points.

Several years ago it was the speaker's mission to visit all the cities in which the Merz system of garbage reduction is in operation. These cities are Milwaukee, St. Paul, Detroit, Buffalo, Patterson, New Jersey, and St. Louis. The plant in this city is the only model one, and is the largest in the world. The chief difficulty seems to be the manner of collecting the garbage, its transportation and the location of the works. Garbage should be collected before it has decomposed, and then it should be transported in air-tight carts, and not, as at present, be distributed along the streets by leakage from imperfectly constructed wagons, or carried about in the clothes of drivers who wade in it up to their knees. The other difficulty is hard to overcome as the works must remain in the city limits, since the United States law prohibits a community from putting its nuisance on its neighbor. Nevertheless, our system is the most perfect one, and it was so considered by a New York representative who telegraphed to that troubled city, "Factory magnificent, plan working to perfection, system beyond question a good one, recommend it by all means."

The Merz system is intended to treat animals exactly like garbage. It receives the animal from the hopper in the butcher room, and it comes out a powder in odor and appearance very much like chicory. The result of the Merz process is to give a fertilizer that is composed of three per cent of ammonia, seven per cent bone phosphate, one per cent potash, twelve per cent water and the rest carbonaceous matter. It goes back into the soil and is eagerly sought after, and we are exercising great economy, because we rob the soil with our crops and we are now enriching them again.

Medical Society of Virginia.

The twenty-fifth annual session of the Medical Society of Virginia will be held in Richmond, Va., October 23, 1894.

First meeting, open to the public, called to order by the President, Dr. Wm. P. McGuire, of Winchester, Va., at 8 P.M, Tuesday, October 23, 1894, in hall of Y. M. C Association, Main and Sixth Streets. Fellows, delegates and members by invitation must register their attendance at the registration desk in the hall of meeting.

After prayer, address of welcome, report of Committee on Applicants for Fellowship, etc., the address to the public and profession will be delivered by Dr. R. S. Martin, Stuart, Va.

Report of Committee on Prize Essays: (1) Dr. Hunter McGuire's prize of $100, for essay on "The Medical and Surgical Aspects of Appendicitis;" (2) Conjoint prize of Drs. Joseph Price and Herbert M. Nash of $200, for "The History of Surgery and of Surgeons in Virginia." Essays offered for either prize must be typewritten or printed, signed only by a *nom de plume*,

accompanied by a sealed envelope, with the corresponding *nom de plume* on the address side, containing the name and P. O. address of the author. All essays must be in the hands of the Recording Secretary by October 13, 1894.

Business of a general character, reports of officers, etc., until adjournment.

All subsequent meetings of the session will be held in the hall of the Chamber of Commerce, Main and Ninth Streets.

Wednesday, October 24, 10 A.M. Business of a general character until 11 o'clock, when Dr. Wm. P. McGuire, of Winchester, Va., will deliver the annual address of the President.

Subject for general discussion—Appendicitis—Dr. Wm. L. Robinson, of Danville, Va., leader. Dr. J. W. Long, of Richmond, Va., will follow with a paper on "The Indications for Celiotomy in Appendicitis." Dr. Edwin A. Down, of Hartford, Conn., member by invitation, will read a paper on "The Psychic Factor in Appendicitis." Members by Invitation Drs. A. M. Phelps and Robert T. Morris, of New York City, and honorary Fellow, Dr. Jos. Taber Johnson, of Washington, D. D., will discuss the subject. The discussion will then be opened to fellows, delegates and invited guests, in the order of their recognition on the floor by the Chair—the right of closing being accorded, of course, to the leader, Dr. Robinson.

(By resolution, 1884, thirty minutes is the limit of reading a paper, and fifteen minutes for extempore remarks by the same speaker).

The afternoon meeting will be devoted to elections of officers, etc., including nominations to the governor of twelve fellows to compose the Medical Examining Board of Virginia (so far as the regular profession is concerned) for the four years to begin November 1, 1894, the selection of place and time for holding the twenty-sixth annual session, selection of leader and subject for general discussion during that session, etc.

After these elections, etc., the call for papers and discussions will begin and continue as the order of business. The following fellows have complied with the terms of their appointment by the President last fall:

Dr. John W. Dillard, Lynchburg—Curettage of the Uterus.

Dr. James D. Moncure, Williamsburg—Care of the Insane.

Dr. J. T. Boutelle, Hampton—Trephining for Epilepsy.

Dr. Wm. F. Cooper, Woodville—Dysentery.

Dr. William A. Thom, Jr., Norfolk—Preventive Medicine.

Dr. George W. LeCato, Wachapreague—Some Old Remedies in the Treatment of Diphtheria.

Honorary Fellow Dr. Joseph Price, Philadelphia—The General Practitioners' Knowledge and Responsibility in Gynecological Troubles.

The following fellows promised papers under the appointment of the President, but have not informed the Secretary of the titles:

Dr. A. S. Priddy, Keysville, Va.; Dr. Robert Glasgow, Lexington, Va.; Dr. Elliott T. Brady, Marion, Va.

In response to postals issued August 20, the following have promised papers:

Honorary Fellow Dr. Edgar Chancellor, University Station, Charlottesville, Va.—Preventive Treatment of Pulmonary Phthisis (Tuberculosis).

Dr. J. Allison Hodges, Richmond, Va.—Sepsis; Its Early Diagnosis by the Pulse.

Dr. Wharton Sinkler, Philadelphia, (invited)—Sporadic Cretinism and Its Treatment by Thyroid Extract.

Dr. Alfred B. Tucker, New York, (invited)—Cesarean Section; Report of a Case.

Dr. J. T. Graham, Wytheville, Va.—Glycerine Suppository as a Substitute for the Glycerine Tampon.

Dr. Samuel J. Fort, Ellicott City, Md., (invited)—Psychical Epilepsy.

Dr. George W. Larrick, Middletown, Va.—Report of a Case of Dislocation of the Hip-Joint, With Fracture of the Femur.

In addition, Drs. T. D. Crothers, of Hartford, Conn.; Charles McBurney, of New York, N. Y.; L. McLane Tiffany and Wm. F. Lockwood, of Baltimore, Md.; Dr. T. V. Fitzpatrick, of Cincinnati, O., and others—either as fraternal delegates or in response to invitations—have promised papers or participation in discussion if able to attend.

Railroads in Virginia have generally agreed to one and a third fare during the week of the Society—good for fellows, delegates, those attending the Medical Examining Board of Virginia, etc. But as it is impossible to procure uniform rates, all parties interested are cautioned that they should, as promptly as possible, inquire of their depot agents as to special rates from their respective depots; so that, if the agents have not received special instructions, they may have ample time to inquire into the matter, and get rates before the time of the meeting. Railroad tickets purchased for trips to the Virginia Agricultural Fair expire October 20, and cannot be extended.

Hotel per capita daily rates have been secured as follows: Murphy's Hotel, Broad and Eighth Streets, European plan, room 75 cents to $1.00; American plan, $2.00 per day.

The following are on the American Plan: Exchange Hotel, Franklin and Fourteenth Streets, $2.50 to $3.00; The Lexington, Main and Twelfth Streets, $1.50 to $2.00; Dodson Hotel, Twelfth and Bank Streets, $1.50 to 2.00. St. Claire, Grace and Ninth Streets, $1.50.

Among good boarding houses is Mrs. Coxe, Franklin and Seventh Streets, $1.00, if more than one in a room.

Applications for fellowship should be solicited by every member until every worthy doctor in his section is secured as a fellow of the Medical Society of Virginia. Blank application forms can be procured in any desired quantity by addressing the Secretary.

Fellows in arrears should forward amounts due to the

Treasurer, Dr. Rich'd T. Styll, Hollins, Va. (a P. O. money order office), until October 19; after that, till end of the session, Richmoud, Va.

The Medical Examining Board of Virginia, as at present constituted, will hold its last session for examination of candidates for license to practice in Virginia in the hall of the House of Delegates, beginning promptly at 9 A.M., Tuesday, October 23, 1894. The Board itself will meet in the same hall at 8 P.M., Monday, October 22, for business. All letters with reference to this Board and the examination should be addressed to the Secretary of the Board, Dr. Benjamin Harrison, Franklin and Seventh Streets, Richmond, Va.

All Fellows of the Society are specially requested to turn to the Biographical Register of Fellows, as printed in the Transactions of last year, and see what, if any, changes are needed. Then turn to the blank form on pages 5 and 6, tear it out of the Transactions, fill it properly, put in a distinct envelope, seal it, and adress it "Correction for Register," which should be handed to the Recording Secretary when the Society convenes.

A Committee of prominent local pharmacists, etc. (Mr. T. Ashby Miller, Broad and Fifth Streets, Chairman), will have charge of the hall for the exhibition of pharmaceutical products, surgical instruments, etc.

The Committee of Arrangements (Dr. J. S. Wellford, Chairman), will announce the social features during the session.

LANDON B. EDWARDS, M.D.,
Recording Sec'y, etc. (for Executive Committee).

ABSTRACTS

MEDICINE.

Report on the Etiology and Prevention of Diphtheria.—Presented on behalf of the German Committee to the Eighth International Congress of Hygiene and Demography, at Buda-Pesth.

The following is the summary of the conclusions of this important report:

1. The productive agent of diphtheria is the diphtheria bacillus. Dispute as to the etiologic definition of this bacillus exists no longer. We can, therefore, henceforth indicate as diphtheria such forms of disease as are infested with the bacillus.

2. Not infrequently cases appear in the early stages to the clinical observer as true diphtheria, which, however, are caused by other organisms, as streptococci, staphylococci, pneumococci, and in light or graver form may be mistaken for diphtheria. But the differential diagnosis can be effected through bacteriologic research. Statistical compilations on the epidemic of diphtheritic epidemics cannot represent an exact definition so long as the bacteriologic investigation of cases suspected of diphtheria fails to mark a division between true diphtheria bacillus and cases merely resembling diphtheria.

3. Diphtheria epidemics show a various character, as do many other epidemics of infectious disease. The course of epidemics is very often light, but also much more severe, indicated by the high figure of the death rate, the rapid infection of the larynx and the nose, and by severe heart and kidney affections, and consecutive paralyses. But also in the same epidemic instances of severe and light forms of disease frequently alternate irregularly.

4. The variation will be determined by several factors:

a. By differences in the number and the virulence of the diphtheria bacilli; the causes of the latter are not yet absolutely known.

b. By concomitant bacteria, and, indeed, as much by pathogenic as saprophytic, the processes of infection with regard to the diseased mucous membrances in the passages and in the nose appear to influence the course of the disease unfavorably, in part by increasing the virulence of the bacilli, in part by weakening the body through absorption of decomposition products.

c. By individual tendencies not yet thoroughly recognized.

5. The diphtheria bacillus can appear in the passages, especially of the nose, of separate individuals without causing indications of sickness, which it first induces when it has actually established itself. Lesions of the mucous membranes, small eruptions, catarrhal changes, are favorable to its residence. In brief, meteorologic conditions giving admission by the first approach to catarrh, especially cold damp weather, appears to favor the sickening from this cause. But this influence has to be more closely observed.

6. Diphtheria is most rapidly communicated by direct contact between sick and well through spitting, coughing, sneezing, kissing and grasping of the hands, whereby the hands come into contact with fresh secretion, but also freely through utensils which the sufferer has fouled with his excretions, by beverages, food, eating and drinking vessels, cast off washing, clothes and other articles, as pocket handkerchiefs, playthings, even long after their actual infection.

7. The sick is infectious so long as he has bacilli upon the mucous membranes. The bacilli usually disappear with or soon after the disappearance of the local signs, but they may be detected still lively and virulent in the passages or nose for weeks and even months.

8. In organic matters condensed and excluded from light the bacilli can maintain themselves for a period of months outside the body; accumulations of dirt, dark and close dwellings favor thus the preservation of bacilli and the extension of disease.

9. As a specially noticeable vehicle for the extension of disease is to be noted the crowding together of susceptible individuals, especially in families of many children. But other gatherings of people, apart from

children, where separate persons do not come into such proximity as the members of a family, may offer facility for the extension of infection, as schools, barracks, and the like.

10. The diphtheria bacillus is so far not identified with certainty as the cause or inducer of other diseases similar to diphtheria or of other spontaneous disease of lower animals. The possibility of the conveyance of true diphtheria from sick animals to human beings is thus outside our present knowledge. It is desirable that the governmental investigating committees should combine with research regarding diphtheria coming under their notice the similar diseases of animals, and also the communication from animals to human beings of diseases resembling diphtheria.

11. As prophylactic means are to be considered:

a. Care for cleansing, keeping dry, sufficient ventilation and lighting of the dwelling.

b. Careful cleansing of the mouth and nose, gargling with weak solutions of common salt and carbonate of soda, thorough brushing of the teeth, extraction of bad teeth, attention to the deeper cavities of the tonsils, and removal of hypertrophied tonsil.

c. Cold douching of tl. imes of diphtheria prevalence.

12. Every case suspected as diphtheria must, when possible, be bacteriologically investigated. The physicians must have easy access to the required materials for carrying on the culture, for example, in the chemists' shops. The investigation has to be carried on by specialists, as in the case or cases of suspected cholera.

13. All cases proved bacteriologically to be true diphtheria, as well as all cases suspected as diphtheria which have not been bacteriologically investigated, must be dealt with as under police regulations.

14. Every diphtheria case must be isolated either in a separate room of the dwelling or in an isolation ward. In order to restrict as much as possible the spread of the bacilli by the sick, a local anti-bacillar treatment must be employed with a view to prophylaxis against the early stages of the disease.

15. One of the most effective means against the spread of diphtheria to be cared for is the protective inocula lion of susceptible individuals in the neighborhood of the patient, especially of children. In proportion as the innocuousness of Behring's serum cure through preventive injection is established for curing or prophylaxis, it appears worth while to develop further as far as possible the art of inoculating it in families and in school classes in which diphtheria cases have occurred.

16. In every case of diphtheria disinfection is imperative. This is needed for all utensils for the sick, as well as for the sick themselves and the sick room.

17. Convalescents from diphtheria must not mix freely with others (or children go to school) till bacteriologic investigation has proven the removal of the bacilli, and the sick after a warm bath with soap have been thoroughly cleansed and have put on clean clothing.

18. On the outbreak of diphtherial epidemics, notification should be given in the public press.—F. Loeffler, M.D., Professor of Hygiene in University of Griefswald, in the *British Medical Journal; Journal of the American Medical Association.*

The Significance of the Venous Pulse.—Dr. James Mackenzie divides the venous pulse into two forms, the auricular and the ventricular. The former, he says, presents distinct evidence of the functional activity of the right auricle. In this form there is also a wave due to the ventricle, and as it increases the auricular wave decreases and finally disappears, and thus the ventricular venous pulse is developed. The latter form is a more advanced stage than the auricular, and, as during its development there is a gradual fading of the auricular wave, there is a period when such terms do not sufficiently denote the character of the pulse; but the terms are convenient for descriptive purposes. The ventricular venous pulse appears only when there is organic disease of the heart itself (most commonly in valvular disease). When failure of the heart is functional and not due to organic disease of the valves, the auricular pulse persists to the end. Similar types of pulse may be recognized in the liver. Here the pulse appears only when there is organic disease of the heart. In many respects, says Dr. Mackenzie, more information regarding the various cavities of the heart can be obtained from the study of the venous pulse than from that of the arterial pulse. Thus, during a cardiac revolution the arterial pulse is in free communication with but one chamber, the left ventricle, only a portion of the right auricle during its systole and its diastole may be observed, while the time of the appearance of the ventricular wave gives information regarding the degree of incompetence of the tricuspid orifice. Information may be gathered regarding the exact time of closure of the pulmonary valves, and the persistence of the ventricle in systole for a short time after the outflow through the arterial orifices has ceased may be noted. There is also distinct evidence of the diastole of the right ventricle in the venous pulse. In heart failure the venous pulse affords information of a kind entirely different from that supplied by other means. Its appearance, increase, decrease and disappearance may give evidences of changes in the blood-pressure inappreciable by any signs given by the arterial pulse. While, as a general rule, an increase of the venous pressure implies a diminution of the arterial pressure, that, nevertheless, is not always the case. Although in some cases the disappearance of the venous pulse is a sign of the restoration of the body to a healthier condition, yet in other cases it may precede a fatal termination. In these last cases there is also a failure of arterial pressure. In pulse irregularities no true knowledge of the action of the different chambers of the heart can be obtained except by the study of the venous pulse, and this study, says the author, throws a new light upon the heart's movements,

and reveals a variety of them hitherto unsuspected.—New York *Medical Journal.*

Concurrent Infection.—Since Hunter taught that "all morbid processes were simple" it has been generally held that the actual presence of one acute specific disease conferred for the time being some degree of protection against others. The experience acquired of late years in fever and small-pox hospitals—especially the frequency with which the attempt to treat small-pox cases within the same curtilage as scarlatina and other fevers, has been followed by the inter communication of infection, at any rate of small-pox to the fever blocks—has shown pretty conclusively that the mathematical doctrine of probabilities is amply sufficient to explain why two or more diseases, each occurring as a rule but once in a lifetime, do not more often attack a man at one and the same time.

Many pathogenic organisms will grow together in a culture, and there is no reason why they should not in the living body.

Dr. Caiger gave, at a recent meeting of the Epidemiological Society, an interesting analysis of his own experience of four years as the Superintendent of the Stockwell Fever Hospital, and an analysis of the like cases in the other hospitals of the Asylums Board. He had seen 362 cases of two, and 17 of three such diseases running a part at least of their courses concurrently; and in 200 of these the febrile stages of two or three actually coincided. The relative priority of the diseases he calculated from the date of infection, as determined by the appearance of the eruption and the known duration of the incubation; for the eruptions would not always follow the order of infection; *e. g.*, scarlatina contracted any time within a week after an infection with measles or varicella would show itself before either of these.

Of course, the grouping of the diseases depended mainly on their age, incidence and seasonal prevalence, as well as on their actual frequency; but the question of the modifying influence, if any, exerted by one disease on another was of far greater practical importance, and the conclusions at which Dr. Caiger arrived were: (1) that neither the incubation periods nor the essential phenomena of the diseases were in any way altered, but that (2) one involving considerable constitutional disturbance aggravated that which followed in order of appearance, and those attended with inflammation of hyperemia of any surface or tissues intensified subsequent diseases which were specially located in those structures. Hence post-scarlatinal diphtheria was worse than scarlatina after diphtheria; but diphtheria following on measles was even more fatal, from its constant extension to the congested air-passages. Varicella had not the slightest influence on any subsequent disease, but when it made its appearance on the hyperemic skin of a patient suffering, or even convalescing, from scarlatina the eruption and intensity of the disease might rival that of unmodified small-pox.

Of the 48,376 cases of scarlatina admitted into the hospitals of the Board in the last six years, 3,166, or 6.54 per cent, were complicated with some other acute specific, which in 1,094 cases was diphtheria. The great frequency of this complication was easily understood when one reflected on the favorable conditions presented by the throat, during or shortly after scarlatina, for the reception of the diphtheritic bacillus, and the fact that one attack of diphtheria, so far from conferring immunity, tended rather, by the unhealthy state of the fauces that often persisted, to render the individual more susceptible than others to infection.—*Am. Jour. Med. Sciences.*

Citric Acid in the Local Treatment of Diphtheria.—Most suggestions for the local treatment of diphtheria have been consciously or unconsciously based on the now well-established fact that the throat affection, which in scarlatina is simply one local manifestation (the rash being another) of a general disease, is in diphtheria the indication of the recent invasion of that particular mucous surface by the bacilli, which do not extend beyond the immediate vicinity of the cervical glands at the farthest, though diffusing thence a poison, as Roux and Yersin have shown; or more accurately, according to Hunter, a ferment that generates the poison to which the general and nervous phenomena are due. To destroy the bacilli on their first landing, as it were, before they have had time to intrench themselves in the deeper tissues, is the aim of such treatment; and the local application of germicides, among which the strong caustics, minera acids, perchloride of iron, etc., of the older practitioners must be included, as well as the mercury iodide and the eucalyptus oil of Illingworth and Curgenven respectively, has been productive of more or less encouraging results in lessening the subsequent general infection.

Dr. Hugo Laser, assistant in the Hygienic Institute of Koenigsberg, considering the difficulty of applying caustics in children, and fearing that any injury to the mucous membrane by the use of stiff brushes or otherwise might actually assist the entrance of the bacilli into the submucous tissues, proposed to try citric acid in solutions that should be astringent rather than caustic. Espine and De Marignac had shown that salicylic and citric acids and lemon juice destroyed both the false membrane and the bacilli [boric acid, alum and potassium chlorate being quite useless], and Abadie used it in strong, almost caustic, solution every five hours at first, and every eight to twelve later on. Babes had treated cultures in various ways with a number o established or reputed germicides, of which, under all circumstances, sublimate proved the most active, potassium permanganate far better than one would have expected, and citric, lactic and acetic acids fairly satisfactory.

Laser confined his attention to citric acid and lime juice (citric acid, seven-eighths per cent; sugar, etc., three-fourths per cent, and salt, two per cent), varying

his experiments in every way as regards the strength of the acid, the frequency, duration and mode of its application, and the nature of the culture medium. He next treated portions of diphtheritic membrane by dippings and washing, and last of all he applied the results in actual clinical practice, using frequent applications, with a full camel's-hair brush, of a five to ten per cent solution, which, diluted in the proportion of one tablespoonful to a glass of water, he used as a gargle and also internally, the dose in the latter case being from one or two teaspoonfuls for a young child, to a tablespoonful or more for an adult every hour or two.

Raw lemons, in thin slices, should at the same time be eaten, or rather sucked, one or two per diem, or the expressed juice drunk as lemonade.

He does not pretend to have found a specific, but states that of fifteen cases thus treated, some of them with very severe and extensive exudation, fourteen were cured within three days. The only fatal case was that of a child in which the tonsils, uvula and nares were involved, streptococci were abundant, and death was brought about through septic infection.

Seventy cases of angina and twelve in which the diagnosis of diphtheria was doubtful, were treated in like manner, and all recovered in a couple of days.—*Am. Jour. Med. Sciences.*

Hereditary Tuberculosis and Early Infection.—Instances of direct infection of the fetus *in utero* from a tuberculous mother are on record, but the number is as yet small. Such observations have been made by Charrin, Merkel, Berti, Rindfleisch, Aviragnet, Jacobi, Labourand, and a few others. Recent literature has made several additions to the list Cnopf (*Munch Med. Woch.*) records an autopsy upon a child of twelve weeks, born of tuberculous parents, which, at birth exhibited atrophy, anasarca and jaundice. Miliary tuberculosis of both lungs, caseous peri-bronchitis, caseation of the bronchial glands and tuberculosis of the spleen were found at the post-mortem. Two years later another infant of the same family, born apparently healthy, died athreptic in the thirty-fifth week after birth. The autopsy revealed caseation of the bronchial glands, purulent bronchitis, intestinal tuberculosis with caseation of the mesenteric glands. Another case, dying at the age of sixty-three weeks, showed extensive ravages in the lungs that must have begun at a very early date. The lungs were filled with large cavities, one of which was the size of a man's fist. The bronchial glands, spleen, mesenteric glands and intestinal mucous membrane were very extensively diseased.

Two cases recorded by Goldschmidt (*Munch. Med. Woch.*) may be added, and are extremely interesting as showing the probable course of infection directly from the placenta. The first, an infant of fifteen months, whose parents were tuberculous, was received into the hospital for a cough of long duration, with advanced cachexia. Autopsy showed a tuberculosis of the lungs, of the bronchial, mediastinal and mesenteric glands; on the lower surface of the liver, at the point of insertion of the umbilical ligament, was a nodule containing tubercle bacilli. The other organs were not diseased. In this case the author believes that the existence of a tubercle at the extremity of the ligament which enclosed the umbilical vein clearly points to infection of the fetus by the blood of the mother, though the possibility of accidental infection after birth by way of the healing umbilicus must cast some doubt upon this view. The second case was very much like this one. The child was seven months old, and the lesions found were advanced pulmonary tuberculosis, glandular involvement, tubercular ulceration of the intestine, and a tubercular focus in the liver at the insertion of the umbilical ligament. While the pulmonary disease was more advanced than that of the liver, the author thinks, in consideration of the site of the hepatic lesion, that this had been the focus of primary infection. Another case is recorded by this writer, in which extensive lesions were found in a child of five weeks, removed from the tuberculous mother within a few hours after birth, the mother dying shortly after. In this case intra-uterine infection seems most probable.

Boullaud (*Journal de Med et de Chir. Prat.*) draws attention to a possible avenue of infection at the moment of birth. During the progress of the fetal head the external auditory canal may become filled with maternal blood, and this may very quickly become the seat of a tubercular suppurative otitis from which a generalized infection may spread to the organism. As a prophylactic measure he suggests a disinfection soon after birth of the auditory canals of infants born of tuberculous mothers.—*Am. Jour. of Med. Sciences.*

Infantile Paralysis.—An admirable analysis of seventy-five cases is given by Dr. Anna M. Galbraith (*Am. Jour. Obst*; N. Y. *Med. Jour.*). There were forty-seven boys and twenty-eight girls. The age ranged from birth to five years, the average being about twenty-one months. Over exertion, especially in learning to walk, was believed to be the exciting cause in many cases. In every one of the seventy-five cases, at least one lower extremity was involved; in two-thirds of the cases both lower extremities were affected, and in thirteen per cent an upper extremity; of the latter all but three ended in recovery. In one-third of the cases the attack occurred during the eruption of teeth. In forty-seven cases the season of the attack was noted, and in seventy per cent of these it occurred in July, August or September.

Of sixty-four cases in which the cause is given, traumatism occurred seven times; three cases were due to sudden chilling of the body; two followed measles, one varicella, three diphtheria, two bronchitis, and one pneumonia. The author finds these patients pale and emaciated, and often with enlarged glands, catarrh and eczema. Of twenty cases, dentition was delayed in twelve; and of thirty cases, thirteen walked late. Rather more than half had been healthy before the attack; but

of seventy-two only twelve remained healthy afterward.

Out of sixty-four cases, there was a history of phthisis in some relative in twelve; alcoholism in three; nervous diseases in but a small percentage. Out of twenty-seven cases, the disease was properly diagnosticated at the time of the attack in but two.

The mode of onset is given in sixty-nine cases; with fever lasting from twelve hours to three weeks, but without coma or convulsions, forty five per cent; fever, with coma or convulsions, twenty-two per cent. Severe initial symptoms indicate a severe initial as well as permanent paralysis. The fever is probably due to the inflam matory process in the cord. Treatment of attack: Calomel, leeches, ice bags to spine, and diaphoresis. In the chronic stage, measures to improve the general health are indicated, and locally, heat, massage, stretching, electricity and mechanical support (brace). "The last is of the greatest importance, for by it the limb is kept in proper position, stretching of the paralyzed muscles and displacement of joints with relaxed ligaments are prevented. Further, a child who can not walk at all without it is able to walk with comparative ease with its brace, and so not only is the affected limb exercised, but the whole body is benefited." Electricity, especially galvanism, is useful, but "if too strong a current is used, or the application too long continued, actual harm may be done." The author concludes that even long-standing cases improve under regular and persistent treatment (two or three visits a week for many months) where galvanism causes a fair contraction of the muscles. "But the earlier the case is undertaken, the more hopeful will be the prognosis."

The Ventilation of Sewers. — Dr. Francis Clark has recently presented a report to the urban sanitary authority of Lowestoft on the ventilation and flushing of sewers in relation to health, and we shall be much mistaken if engineering experts have not something to say concerning Dr. Clark's opinions as to the methods to be adopted. Shortly stated, Dr. Clark's proposal is to close all roadway openings to sewers and to supplant these by ventilating pipes, on the sewer side of the house drain interceptor, carried up the sides of houses. He quotes from the writings of several health officers in favor of the closure of roadways openings, and appears to lay stress on the experience of this and that town during a single year in the matter of diphtheria and its incidence upon one and another class of houses, according as they were or were not on lines of sewers ventilated in the roadway. Dr. Clark regards surface ventilators as a cause of the spread of diphtheria, and the idea conveyed by the report is that in the writer's mind the towns selected for comparison as to diphtheria rates have all things equal outside their sewerage systems. The opinions of those health officers whose judgement Dr. Clark sought on the various points respecting sewer ventilation are very diverse, and themselves indicate the want of any unanimity on the part of medical experts as to the best method of procedure to be followed. With Dr. Clark's suggestion as to the ventilation of sewers by means of pipes up the sides of houses no one could quarrel, were it not for his further proposition that these should supplant surface ventilators. Without closing the surface ventilators they may be combined with extractors of a caliber sufficient to act as upcast shafts, this question of caliber being one of the chief difficulties in the way of their general adoption. Roadway openings at short distances with efficient upcast shafts at equally short intervals, and midway between the surface openings, would probably meet the complaints of those who now object to surface ventilators. If air can be drawn through our sewers and led to join the general atmosphere at a high point away from living rooms, the problem of how to ventilate without nuisance will probably have been solved.—*British Medical Journal.*

SURGERY.

Suprapubic Prostatectomy, with a Report of Twelve Cases.—A. W. Mayo Robson, F.R.C.S. (*Brit. Med. Jour.*). By means of bimanual examination, either with or without an anesthetic, the condition of the whole of the prostate may be mapped out, and the presence or absence of other organic disease of the bladder may be ascertained. The method employed is with the patient on his back, and, after emptying the bladder, bring him to the right of the bed, prop the shoulders with pillows, and ask him to flex the thighs; then, with the right index finger, well greased, inserted into the rectum, and the left hand well warmed placed on the hypogastric region and gently pressed backward, the intervening bladder and prostate can be quite clearly felt, and the latter can be mapped out. If a catheter be then passed, the thickness of the middle lobe, or of the bar at the neck of the bladder, can be accurately gauged by the left hand pressing the catheter backward on to the finger in the rectum; which is then able to estimate the thickness of tissue intervening.

When regard to the selection of cases. This comes under two distinct categories (1), those not requiring operative treatment, and (2) those disqualified by other disease. Whenever a patient has no large amount of residual urine, and can be made comfortable by the passage of a catheter at night, or night and morning, and where catheterism is well borne and not difficult or distressing, operative treatment is unnecessary. In the presence of complete atony of the muscular coat of the bladder, operation is advisable if the atony be only of short duration, say a few weeks; but if the conditions have existed for many months the removal of the obstruction to the urinary outflow, even if successfully accomplished, can probably lead to very slight ultimate benefit, but atony of less duration can be overcome by tonics and galvanism when the obstruction is removed.

The presence of a large amount of residual urine as-

sociated with fair vesical contractility and not diminishing after regular catheterism, the patient being other wise in fair health, is a decided indication for prostatectomy, unless the relief given by the catheter is considered adequate by the patient.

Cystitis associated with enlarged prostate, especially if catheterism is difficult and painful, is an indication rather than otherwise for suprapubic prostatectomy, as at the same time the bladder can be thoroughly purified and drained. The presence of a calculus, or of calcul ous material associated with prostatic enlargement and residual urine, is an indication for suprapubic lithotomy followed by prostatectomy, as at the same time it en ables the bladder to be thoroughly cleared, the coexisting cystitis to be treated by drainage, and the obstruc tion at the neck of the bladder to be removed.

The presence of advanced kidney disease, especially if associated with a greatly diminished excretion of urea; chronic atony of the bladder; glycosuria; well-marked degeneration of the blood-vessels associated with general senile debility, or other organic disease which would render any major operation inadvisable, would lead the surgeon to seek to give relief by catheterism or simple perineal drainage rather than by a more serious operation.

Besides asepticizing the skin by a previous carbolic dressing and washing out of the bladder with boric lotion, 5 to 10 grains of boric acid and a little saccharin are given thrice daily for a few days before operation so as to render the urine aseptic if possible. The rectal bag, by raising the prostate nearer to the manipulating finger, is of advantage, but it is important not to over distend it, lest rupture of the rectum or inflammation in the meso-rectum ensue; only 4 or, at most, 6 ounces of water should be introduced. The bladder is distended with boric lotion until it can be felt above the pubes, no fixed quantity being employed.

In removing the obstruction, McGill's scissors or the cutting ring forceps, Jessop's answer best for the sessile or pedunculated enlargement of the middle lobe, and for the ring like obstruction the scissors may be employed first at one side and then at the other, so as to cut a V shaped portion, making a clear channel from the vesical pouch straight into the urethra, down which the finger is passed to see that the passage is clear.

If the lateral lobes are much enlarged the finger can be insinuated within the capsule and the adenoid masses can be enucleated with very little difficulty.

Lastly, all loose pieces of tissue are cut away and the parts are left as smooth as possible. In order to dis turb as little as possible the cellular surroundings of the bladder the edges of the vesical opening are fixed temporarily to the margin of the wound by a suture on each before any intravesical manipulations are commenced. Suprapubic drainage is efficient in all the cases; it is not necessary to drain through the perineum. In the after treatment, boric acid is given thrice daily, and the bladder is washed out once or twice daily by syringing a solution of boric acid through from the urethra to the drainage opening. The drainage tube is removed if possible on the third day, and the patient is allowed to sit up within a few days of the operation. As a rule recovery is attended with very little general disturbance or discomfort, and the urine begins to be passed by the urethra soon after the patient is allowed to sit up.

The operation of suprapubic prostatectomy in properly-selected cases is one attended with less danger than is usually thought, and if thoroughly and completely performed it is capable of affording such relief as may be in many instances genuinely termed a cure, and that in a class of cases which until a few years ago were looked upon as incurable.

The 12 cases reported in this paper range in age from 61 to 73 years. In six the middle lobe of the prostate was removed. One had enlarged lateral lobes which were enucleated; there were also fifty calculi. Four had a collar of prostatic tissue around the neck of the bladder, from which a wedge shaped piece was removed. In one, a calculus encysted in prostatic tissue was the cause of the obstruction. In all, recovery was very satisfactory except one which died three weeks after the operation. In two, phosphatic stones were removed some months after the original operation.

The Treatment of Clubfoot by Manual Correction.—Interesting as evidence of the spread of mechanical methods in the treatment of congenital equino-varus, is a paper by Dr. Nicholas Hagman, of Moscow (*Revue d'orthopedie;* N. Y. *Med. Jour.*). He recommends that treatment be begun at the beginning of the second week after birth, and employs forcible manual correction, after rubbing the member with oil; afterward the improved position is maintained by a bandage. Complete reduction of the varus element is obtained inside of a week even in severe cases. After twenty-four hours the bandage is removed, and replaced after massage and passive movements. This is repeated until the deformity is considerably reduced, when a plaster bandage is applied over the flannel bandage. In seven to ten days it is removed, and repeated, if necessary, after an equal interval of massage, exercise and bandaging. After this the foot is put up in a leather splint, and rubbed and manipulated by the mother. If, when the child begins to walk, the sole is placed squarely on the ground and used naturally, the cure is complete; if not, the application of plaster must be repeated with intervals of a week or ten days for massage and exercise. The equinus element is more difficult to overcome than the varus. Massage and exercise and the proper application of shoe must be carefully followed up till the gait is normal. The children continue to walk for four or five years with the toes turned in, but this disappears gradually. In the ordinary forms of infantile clubfoot the author has never seen this treatment fail. The author remarks that the surgeon must not be unnerved by the cries of the child.

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OBSTETRICS AND GYNECOLOGY.

The Cervical Ganglion of the Uterus.—It would astonish any student to know how little has been published in regard to the nervous system of the female genitals which is of an original character. The reason for this is at once apparent when one pursues the study for several years. Of course, the simplest and easiest way is to dissect the genitals of man and animals. But few do that. And besides, to dissect with value and discrimination requires time, experience and patience. The best way is to secure an infant cadaver and drop it in alcohol for several weeks, and for comparison secure some six to eight weeks' fetal pigs from the slaughter-house and treat them likewise.

To get at the parts most readily, open the infant's abdomen and take away the hip-bone. Unjoint it at the sacro-iliac joint, then cut it away at the tip of the ischial spine, and then saw through the pubic rami at the center of the obturator foramen. The field is now clear. Next, observe the course of the hypogastric plexus just beneath the peritoneum at the promontory of the sacrum. It will show itself like white threads shining through the peritoneum. The white lines are the hypogastric plexus and should be carefully followed by a sharp pointed scissors as far as the region of the cervix. Now, with gentle care, clear away the various tissues from the roots of the first, second, third and fourth sacral nerves. It will, by this time, be clear to the sight that the lower end of the hypogastric plexus and the branches from the sacral nerves (especially the third and fourth) converge near the cervix into a mass of white tissue. This mass of whitish-gray tissue is the ganglion of the cervix uteri. So far as I can ascertain, this ganglion was first described by a physician named Walter. The existence of the ganglion has been denied by Snowbeck, of the English, and by Kilian, of the French; The defenders of the ganglion are chiefly Lee (1842) and Frankenhausen (1867). The names of those who have worked at this ganglion are very few even to this date. The only worker on this ganglion that I know of in the last generation is Dr. Jastrobef, of St. Petersburg, in the clinic of Professor Slavjansky. Dr. Jastrobef used thirty bodies to secure anatomical and pathological knowledge. I have been working at the nervous system of the female genitals for some five years, and I did not become aware of Dr. Jastrobef's labors until August, 1894. Nearly every worker in this subject comes to essentially the same conclusions, but some little manifestations arise which induce said observer to think every other investigator overlooked. Lee and Frankenhauser showed with anatomical positiveness the largeness and solidity of the cervical ganglion; while Snowbeck and Kilian tried to belittle its size, and even its existence. Jastrobef's short account simply sides with the idea that the cervical ganglion is a mere plexus of nerves.

After careful dissecting (man and animals) I must say that the cervical ganglion is a veritable ganglion, just as the superior cervical ganglion is The cervical ganglion is a real ganglion. It is true it varies in shape and size, as all sympathetic ganglia do. But it is constant and real. I shall carry on this investigation for the next few years in man and animals and prove its constancy. The last cadaver which I dissected for the purpose of identifying the ganglia for study was that of a woman about seventy years old. The ganglion was fully three fourths of an inch long, and over one-fourth of an inch wide. It was a thick, hard, irregularly shaped mass of nerve-tissue receiving the hypogastric plexuses and the branches of the sacral nerves, and sending out many small nerves to the uterus, bladder and rectum. The ganglion in this special case received all the branches of the sacral nerves before they entered the uterus, and all the nerves of the hypogastric plexus, except two or three, before they were sent to the uterus. It appears, then, that the cervical ganglion is the distributor of nerves to the uterus. It is no doubt the ganglion of the uterus. Its business is to control the uterus. Leashes of nerves start out of this ganglia to the uterus, bladder and vagina. The vagina was, next to the uterus, the favored organ for numerous strands. The ganglia lie near the cervix, one on each side. In the above case the right cervical ganglion was much more solid and compact than the left. More than a dozen branches could be counted going to the uterus, to the vagina, and to the rectum, in the order of abundance. In this case of a woman seventy years of age the ganglion was perfect and distinct, as it is in an infant cadaver. The wonderfully intimate nervous connection of the uterus to both rectum and bladder should be a lesson to the gynecologist. The uterus, rectum, and bladder are richly supplied by many strands from the same great trunk (hypogastric plexus). It is almost impossible to irritate one organ without the other two being brought directly into the disturbed field.

During the last five years I have had many subjects (man and animals) to study the sympathetic nervous system, and one fact has, time and time again, impressed me. This fact is the widespread and profoundly intimate nervous connection of the kidney and genitals So far as the nerve connection is concerned the organs should be written genito urinary, with a distinct hyphen. The explanation arises in embryology, where both genital and urinary organs arise from the same source—the Wolfian body. I wish to give credit for this same idea to Dr. Frankenhauser, whose work I was able to secure only a few months ago, as it is out of print. A glance at a well dissected sympathetic nervous system lying *in situ* would enable a physician to cast aside forever an error long propagated in obstetrics, and to my own knowledge taught even to this day from obstetric chairs. It concerns pressure over the sacral promontory to stop post partum hemorrhage. It is taught that pressure compresses the aorta so that the blood is checked from going to the uterus. A few actual trials in ob-

structing the aorta by pressure will soon dispel the delusion. The facts in the case are that the irritation of the hypogastric plexus (in attempting to compress the aorta) induces the uterus to contract. The more pressure and vigorous irritation applied to the sacral promontory the more vigorous and certain will be the uterine contractions, so that the explanation of how post partum hemorrhage is checked by compressing the aorta is certainly wrong. The mechanism is accomplished by the irritation of the hypogastric plexus. So far I have not had the oppor unity of dissecting a pregnant uterus, to determine whether the cervical ganglia enlarge, but both Lee and Frankenhauser say they do. It is probable, however, that John Hunter is correct in his suggestion that it is the connective tissue, and not the nerves themselves, which enlarges in pregnancy. Almost every investigator of the uterine nerves has come to the opinion that it is the infant cadaver which serves the best purpose. The nervous system of the infant is disproportionately large and is plain to the eye, and it can easily be separated from the delicate connective tissue. The cervical ganglia are very plain in the infant. Two to four nerve-branches pass along with the ovarian vein and artery to the ovaries. At the junction of the tube and uterus (*i. e.*, at the origin of the roung ligament) the ovarian and uterine nerves join—anastomose. The cervical ganglion, of course, shrinks after the menopause, but its shrinkage must be limited, as many of its branches supply the rectum and bladder, organs which persist in further use. Yet it appears to me that the rectum and bladder in old female cadavers are considerably atrophied as well as the uterus.

Jastrobef in his short article notes that in disease of the genitals on one side the ganglion of the same side is affected. He reports two cases where the ganglion and the genitals of the same side were both diseased As a considerable portion of the cervical ganglia rests on the vagina, even total extirpation of the uterus would include but a very small part of the ganglia, for the cervical ganglia are situated too low down to be included in the extirpated uterus. These few remarks may call attention to the cervical ganglion of the uterus, its limited literature, the varied opinions as to its existence, shape and size, as well as the slight records of the functions and pathology.—Byron Robinson, M.D., in *Medical Record.*

Persistent Hemorrhage in the New Born.—This rather rare but very puzzling and annoying condition has not received the attention in general treatises on medicine and obstetrics that it deserves (*Philadelphia Polyclinic*). It has frequently been confused with the hemorrhagic diathesis, hemophilia, or regarded merely as a complication of some other condition present. Indeed the practitioner who has not before encountered it is liable to suppose it merely accidental hemorrhage, at first making light of it, and later on getting worried about his inability to check it.

It is liable to occur at the navel, but in many cases occurs elsewhere, most frequently from some portion of the gastro-intestinal tract. Whether it is due to the exaggeration of some normal tendency in the blood or vessels shortly after birth; whether it is allied to other well-recognized conditions, or whether it in itself constitutes a distinct disease cannot yet be regarded as settled.

Townsend, who contributes an important paper, based upon fifty cases to the *Archives of Pediatrics*, is inclined to regard it as a distinct disease. In his report he does not include slight uncomplicated hemorrhage from the uterus or vagina, which is not very uncommon in the first few days of life; but he does include cases of internal hemorrhage that might readily be overlooked by one not specially interested in the subject, and alive to its importance. Of his cases thirty one died and nineteen recovered, a mortality of sixty two per cent. In all but three the bleeding first showed itself within the first seven days of life. In these three it occurred on the eighth, ninth and fourteenth day.

He insists upon the self-limited character of the affection and its brief duration. One half of the fatal cases lasted but one day, and the others all died within a week, except one case that died on the eighth day, the bleeding having ceased several days previously. The favorable cases all recovered within nine days and two-thirds of them within five days.

The self limited character differentiates it sharply from hemophilia or the hemorrhagic diathesis, which lasts for long periods or throughout life, and which rarely manifests itself before the end of the first year. Moreover a family history of bleeding is not found in these infantile cases. This distinction from hemophilia and the self limited character of the disease should exert an important influence on the treatment and prognosis, though the latter at best is gloomy enough.

As to treatment, Townsend's experience has made him very skeptical as to the value of astringents, ergot or the mineral acids for internal bleeding, and for external bleeding, styptics are totally unsatisfactory. Locally, carefully applied persistent pressure will do the most, while the general treatment should include perfect quiet, and careful persistent feeding, with milk drawn from the mother or a carefully prepared artificial diet. Abundant warmth should be supplied, and in collapse he finds that alcoholic stimulants seem beneficial, even in the stage of bleeding.

The post mortem examinations that have so far been made in cases of this kind have thrown no light upon the nature of the affection. Its prevalence in hospitals has been noted by Ritter, and Townsend found it almost seven times more frequent among his hospital cases. This, with its self-limited character and the disorganization of the blood seen in many acute infectious diseases, inclines him to think it may, at least in some cases, be of an infectious character.

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NOTES AND ITEMS

The Friends of Dr. William Porter will be glad to know that his health has been quite restored after a year and a half's battle with so called "nervous prostration." At one time it looked as though his days of work were over but he has gained so rapidly that he is "in the harness" again and has taken up his private practice.

Cycling in Paris.—A Paris correspondent of the *Medical Record* writes that there are over one hundred thousand cyclists in that city, that nearly all the leading physicians ride, next comes the lawyers, then the deputies, officers and even the Institute; the family physician prescribes the exercise as the most health-giving ever devised.

Traction on the Tongue in Hysteria.—Th. Balade (*Gaz. des Hop. de Toulouse; Med. Rec.*) has in two cases made very violent hysterical attacks cease by traction on the tongue, the organ being drawn with some force out of the mouth, and kept in that position for some minutes. This procedure was successful when every other treatment had failed.

An Anti-Contagium Society in Asia.—At Baku, on the Caspian Sea, the advance wave of sanitary knowledge has been the means of establishing a new society intended to do away with hand shaking and osculation in the greeting of acquaintances. The ground is taken by the members of this society that these acts tend to propagate and disseminate the bacilli of disease. According to the Paris *Herald* the friends of this movement are males, and the ladies of the city have entered a protest against it to the Governor-General of the province.—*Jour. of the Amer. Med. Ass'n.*

Was Not Spoiled by Prosperity.—A newspaper paragraph is going the rounds to the effect that a Scotch girl named Lithegow recently gratuated from the medical school of Ann Arbor University with a very fair record. Immediately following the event came the news that an uncle had died in Glasgow, Scotland, and left her a fortune variously estimated at $650,000 to $800,000. The young doctress exhibited no surprise or emotion on receiving the announcement, but merely said: "That will enable me to relieve the wants of the poor, without any regret for the loss of my time and labor."—*Jour of the Amer. Med. Ass'n.*

A New Element in the Atmosphere.—It has long been noted that nitrogen obtained from the air had a perceptibly higher specific gravity than nitrogen obtained from the decomposition of its chemical compounds, and it has been suspected that this might be due to the mixture of some heavier gas.

At the recent meeting of the British Association for the Advancement of Science, Lord Rayleigh the physicist and Professor Ramsay the chemist announced the discovery of such a gas as a new chemical element. It is found to be twenty one times the weight of hydrogen and its spectrum shows a single intense blue line.

If the observations of these scientists are correct, there can be little doubt that this new found element is a constant ingredient of the atmosphere and it may possibly have some influence on the physiological action of the air.—*Philadelphia Polyclinic.*

The City Board of Health of St. Louis, it is said, is not a unit in its efforts to control the advertising propensities of the heads of city medical institutions. At least one member of the Board is thought to be in favor of allowing such officers all the scope they desire in the direction of publicity, believing that such posts are accepted largely with a view to future reputation in the community for medical and surgical skill. It would seem that any prestige gained through service as superintendent of a large hospital is legitimate enough, but it is going far beyond limits of even city hospital tradition to use the daily press as it has been used of late. To show the length to which the rules of the Board can be disregarded, a daily paper lately contained the report of an important operation performed at the City Hospital and credited to one of the members of the Board, though it is said that he was not even present at the operation. Such a playful example of medical reporting is a demonstration of the general character of the public statements emanating from the institution. The most serious aspect of this matter, however, is the unlawful and inconsiderate publicity given to cases of an unfortunate character where young women especially are involved; and it is within the bounds of possibility that some patient cognizant of his or her rights in the matter of medical treatment may take occasion to make the management of the City Hospital suffer for its selfish and inconsiderate indiscretion.—*Journal of the American Medical Association.*

Further News About Diphtheria Antitoxin.—In the *Berliner Klinische Wochenschrift*, Behring publishes a paper, in which, among other points, he deals with the question of dose. He states that the serum prepared and tested under his own supervision and that of Ehrlich is now issued in two forms—No. I, and No II.; No. II. is two and a half times stronger than No. I. No. I. is sufficient for the treatment of a case of diphtheria in a child under ten years of age, if it be seen on the second or third day. In cases of longer standing, in those of a very severe type in young children, and in adults, a repetition of the injection will be necessary. No. II. serum acts more surely and rapidly in these cases, but owing to the difficulty of rendering the animals sufficiently immune to provide a serum endowed with immunizing powers so strong, a constant supply cannot be insured. The estimation of the exact

strength of the serum is a difficult matter, and it must be recognized that the strength is liable to vary with the commercial source from which it is obtained. Behring and Ehrlich have devised a method of expressing the strength in figures. Their No. I. (quality and quantity) contains 10 c.c., which is equal to 600 antitoxin normals, and is sufficient for one case with the limitations already mentioned. No. II. contains 11.5 c.c. of a strong serum, and is equivalet to about 1,500 antitoxin normals. Behring now estimates that the death rate of cases treated within forty-eight hours of the onset of the disease with No. I. ought not to exceed five per cent. The dose to be injected as a prophylactic in persons liable to be exposed to diphtheria is set down by Behring at 60 antitoxin normals, or one tenth of No. I. After infection, that is during the incubation stage, he believes that 150 antitoxin normals ought to avert the development of the disease.—*Medical Record.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Some Brief Notes on Medicine Used in Veterinary Practice.

Kenelm Winslow, B.A.S., M.D.V., Instructor in Materia Medica, and Botany, Veterinary Department, Harvard University, reports the following in the *Journal of Comparative Medicine and Surgery:*

ZINCI OXIDUM.—Oxide of zinc is commonly regarded in both human and veterinary practice as being an entirely innocuous agent, but on applying the officinal ointment (1-4) generously over the abdomen of a fox terrier dog suffering from subacute eczema, the most violent paroxysms of pain manifested themselves after the second application, resembling a violent colic, with some symptoms of delirium and acute coryza. The dog was supposed to be in a "fit," and was therefore immediately plunged into hot water. When seen by me there was considerable swelling and congestion of the skin and subcutaneous tissue, and after prescribing carron oil and following it up with a dressing of starch and subnitrate of bismuth, recovery occurred shortly and the eczema disappeared in like manner within a week or ten days. The ointment was found on analysis to be uncontaminated with impurities and the result is to be ascribed to an idiosyncrasy on the part of the patient. As it appears on investigation that such an unfavorable action rarely occurs in both human and veterinary experience, it would seem open to question whether it is desirable to apply zinc ointment over a large surface of broken skin without experimenting first in a small way upon the patient. For although a cure is the wished for result, death would be an unpleasant and complicating feature in its attainment. As once remarked by a well-known therapeutist, when contrasting the comparative value of ether and chloroform, and having praised the many superior qualities of the latter, said in conclusion "ether is more expensive but less so than a funeral." Terse but characteristic of the man, Professor Robert T. Edes.

CALABAR BEAN—PHYSOSTIGMA AND ITS ALKALOID PHYSOSTIGMINE.—With a fluid extract my experience began in such an interesting way that it has led to further trials. An aged gelding used in the trucking business, appropriately, if not elegantly, described in veterinary parlance as a "screw," after suffering for a week with impaction of the colon, without passing any dung, and being nourished with oil and stimulants, was given ten drops of a fluid extract of physostigma. Death occurred almost instantaneously with paraplegia, profuse sweating and muscular tremens, but without purging. The extract had been used in doses of from ten to twelve gtt. previously without bad effects, and it might be said, perhaps, with equal truth, without any good ones. The subject was of course an extremely unfavorable one.

Experimentally three grains of the sulphate of physostigmine were injected within the jugular of a bay gelding placed on the dissecting table. He was aged, but of a good constitution. No marked symptoms except muscular twitchings, especially of the neck, diasphrexis and stertorous breathing occurred. After twenty five minutes had elapsed three grains more were given in the same way. The respiration became very labored, muscular tremors general, sweating most profuse, salivation, and in about half an hour after this last administration the sphincter relaxed and some dung with considerable flatus was expelled.

The eye was amaurotic and protruding, and it appeared that dissolution was at hand, but, as after three hours the subject seemed to be recovering, he was killed for dissection. Here it was apparent that motor paralysis was complete before evacuation of the bowels occurred and was a sign of approaching death. The one-twentieth of a grain of alkaloidse sulphate given sub. cu. to a pointer dog, had a moderate cathartic effect within twenty minutes, without any appreciable symptoms except muscular tumors.

But in the somewhat extensive clinical experience at the Harvard Veterinary Hospital its therapeutic value seems to be still a matter of considerable doubt, and two grains of the alkaloid have more often failed to produce any pronounced beneficial effect, but alarming symptoms have sometimes occurred.

In one case it was deemed necessary to give atropine

as an antidote. Colic, impaction and constipation patients have been those commonly treated with this drug, although azoturia and some other have been experimented with.

In human practice physostigma given internally is regarded more as a synergist than as an agent to rely on entirely in the production of catharsis.

For it seems to me that it might be justly argued whether it is advisable to administer calabar bean in the ordinary way, *i e.*, in such large doses for its immediate purging action. What is wished for is a tetanic state of the muscular coat of the intestines, corresponding to that observed in the external muscles, to increasing peristalsis together with augmented secretions. But this does not occur at all, or else lapses so quickly into the secondary action with large doses, viz., complete intestinal paralysis and relaxation as in the case above cited, that it becomes doubtful whether the therapeutic result is not as much to be dreaded as the existing disease, assuredly when the patient succumbs instanter, as in my first case, it is difficult to make the owners take a cheerful and scientific view of the experiment, they are as a rule unfortunately too ignorant. It will be difficult, naturally, to persuade those who have repeatedly used physostigma with apparent success, and I presume there are such to be found, that such a result is a mere hallucination, but often catharsis could naturally occur in such cases as are most frequently treated with it. Such objections are, of course, always in order as applied to clinical reasoning. There seems to me no good reason why the name of "ordeal" bean originally applied to the drug might not well be retained in view of the action of calabar bean. It was formerly employed to test the criminality of the native Africans, and if they survived the test they were regarded as innocent on the principle of the "survival of the fittest." So in the present therapeutic application, it appears as if physostigma were used to try the strength of constitutions, as the subjects often have to pass through a fearful ordeal, and it not only happens that they do not succeed in passing through it, to speak rather parodoxically.

Cannabis Indica—Indian Hemp.—The study of this drug possesses a peculiar fascination for one who has investigated its effects upon the human being.

The curious and diverse hallucinations resulting from it being especially interesting, so much so that experiments with Indian hemp are almost daily occurrences with students.

It may not be generally known that "Hashish," a preparation of Cannabis Indica, consisting of the leaves and stems with preserved fruits and aromatics, possess a singularly interesting etymological significance in our language.

The name assassin being derived from the Indian "Haschaschins" or assassins, the victims of the drug who were often led into committing violence when under the influence of hemp.

Cannabis Indica has been recommended as a substitude for opium, being devoid of some of the ill after effects of the latter drug. It may be of use as an antispasmodic and hypnotic, but when a rapid analgesiac effect is desired it seems, from the very meagre trial I have given it, to be inferior. A strong bay gelding was given an half ounce (℥ss) of the extr. Cannabis Indica in a ball, at about 10 A.M., one morning, with directions to give two drachms more (℥ij.) later if no symptoms were developed. Very slight drowsiness and slight dilatation of the pupil was noticed, and in about two hours from the first administration he received an half ounce more (℥ss) by accident. From this time drowsiness deepened into stupor and then complete narcosis.

At about 3.30 P.M., amputation of the penis was performed without apparently causing the patient the slightest annoyance.

The stupor became so intense that actual paralysis occurred, and the patient fell down in a heap and had to be propped up in slings during the evening. This condition of things lasted for nearly three days, during which time the patient presented all the appearance of "dead drunkenness," as seen in his superior being and master. Ammoniacal stimulants were employed to hasten recovery. The dose was excessive, but the action was correspondingly tardy. For this reason it would seem that where pain is to be relieved opium or morphine are better agents, acting more quickly and being eliminated likewise.

If the effect which cannabis indica has on the human brain, to make the shortest unit of time seem interminable, was felt by this unfortunate animal, his existence during those three days must have, to him, included geological ages.

Anatomy—Comparative Anatomy of the Sigmoid Valves of the Heart.

BY GILBERT AND ROGERS.

The sigmoid valves of the heart of man are inserted upon a fibrous ring. But this is not the case with the animal series, where the insertion takes place upon the free border of the muscular tables which are absent in man. The researches made by the authors upon a great number of animals (mammalia and birds) have given them ample opportunities to observe the constant presence of these muscular tables. This conformation and disposition of parts may, however, vary in different species. Birds heve three complete aortic rings resting upon each other by their extremities. In the mammalia there is a space corresponding to the mitral valve, where the muscular fibres are lacking.

The presence of these tables is the cause of the conformation of the arterial orifices of the heart with modifications varing with their number and dimensions. The absence of the muscular tables in man must be considered as an inferiority, by exposing the valves to laceration and insufficiency of action.—*Rev. des Sciences. Med; Amer. Vet. Rev.*

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ORIGINAL ARTICLES

The Present Status of the Treatment of Pelvic Inflammation; or, How Shall We Deal With Pelvic Inflammatory Troubles?

BY WALTER B. DORSETT, M D,

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Read before the American Association of Obstetricians and Gynecologists, Toronto, September 20, 1894.

It will be observed that the title of this paper is an interrogation, and is intended as such to the members of this Association. It is more for the purpose of bringing out a discussion of the subject than to attempt to lay down any set rules or laws for our government. We are generally guided in our treatment of any case, whether medical or surgical, by rules, either written or unwritten, that have been deducted from statistics of so-called eminent physicians or surgeons. Whether eminent through their frequent publications in periodical journals or from what they have to say in their local societies it matters not, and while we may think they occupy exalted positions, we must remember that often "distance lends enchantment to the view," and that while these statistics are intended as a fortress provided for our defense, we should never lose sight of the fact that they are not reliable; that they have here and there weak places, through which the deadly missile of personal experience too often penetrates. Of the two contestants on the field then—statistics and the sayings of others versus personal experience—I will choose personal experience every time.

In the consideration of the subject before us I know of no better friend, save the opinion of an honest, trust worthy brother practitioner whom I know well. I must know him well in order to know what his personal experience has been in dealing with such cases, so as to judge of its intrinsic value. Statistics and reports in my humble experience do not weigh very heavy then in the balance. I have known of so called successful surgical operations to be reported in societies when within twenty four hours after the report the party operated upon was in a hearse on his or her way to the cemetery. These reports find their way too often into the journals, then into some "Annual," or are gathered up by some energetic compiler and go to make up, each as an integral part, statistics, and from statistics are deducted laws and rules for our government.

No department of medicine has within the past few years taken such advanced steps as has the surgery of the pelvic viscera, and in order to reach the goal we may have run at too rapid a pace and far overreached ourselves in our efforts to do just the right thing.

Abdominal section for the cure of forms of tubal, ovarian and other pelvic abscesses has probably been the uniformly practiced procedure for the past ten years, and an account of quickly reported cases and manipulated statistics has gained a foothold, as it were, in the profession. Electricity has made a feeble fight against the surgical methods of to-day, but is losing ground and ere long will die a natural death.

Since it has been an established fact that pelvic cellulitis does not often exist, that it is the rare exception to the rule in the consideration of pelvic inflammatory troubles, electricity no longer has the substance upon which to feed, and is quietly taking its leave in search of greener pastures. What in the majority of instances was taken for cellulitis *per se* were cases of abscess within the tube, in the peritoneal cavity, or in the structures between the layers of the broad ligament, when within the layers of the broad ligament, they were and are to-day cases in which the abscess formed in the tube and ruptured into the cellular tissue between the two folds of the peritoneum forming the broad ligament. One exception to this is where a septic inflammation has arisen within the uterus, the uterine cavity itself acting as a reservoir of poisonous material, which is sucked through the lymphatic vessels into the cellular tissue and there sets up a diffused inflammation, which may or may not pervade the entire sub-peritoneal pelvic space, thus fixing the uterine body, or to use the stereotyped expression, "make it feel like as if it is in a plaster-paris mold," producing true cellulitis. The only other and last exception is the result of traumatism, direct or indirect violence.

Now where this is the condition existing, electricity applied within or without the uterine cavity cannot do

any good, and when there is pus existing or liable to form, it is liable to do a great deal of harm. Scrape out, clean out, swab out, wash out the uterine cavity, and follow your cleansing with proper antiseptic dressing, and you place your patient in the best possible con dition to recover from cellulitis. The cellulitis is entirely, to my mind, a secondary condition and often dependent upon a foul uterine cavity. Take, for instance, a puerperal case, due to a retained necrotic placenta, one with a temperature of 103° or 104° F., clean out the uterine cavity, follow the cleansing with a hot bichloride intra uterine douche, and take the temperature two hours afterwards, and you will find a temperature of 101° or less.

What now, may I ask, has brought about this sudden fall of temperature, this marked change in the facial expression, this return of good pulse, this freedom from pelvic pain? Why, our curette has scraped and our intra-uterine douche tube has washed out the stagnant pond, the reservoir of poison has become a thing of the past, and the only reason the temperature is not normal is that there still remains some toxic elements in the general system, the ill-effects of which will by proper systemic treatment soon become eradicated and our patient be restored to health. Would the electrician dare to apply his electrode in such a case? Then why, may I ask, should he in the other?

It has not been so long ago that some of us may not have forgotten that the gynecologists were taken to task by the neurologists for their pernicious meddling with the womb they were accused of persisting in examining females when the occasion did not demand it, and were styled the moral rapists, as it were, of the profession. Probably the erudite neurologists only conceived of the danger the gynecologists might do by sewing up here and there a lacerated cervix, of introducing now and then a pessary, or swabbing out a vagina, or artistically painting and decorating a cervix with iodine. These proceedings, in the minds of the neurologists, I take it, were about all the gynecologists were capable of doing. Perhaps when this accusation was made gynecology comprised but little else. Since then, however, she has advanced far beyond simple tinkering.

Did it ever occur to the neurologists after a faithful trial of bromides, chloral, nux vomica, lady's slipper, infusions and decoctions of herbs and roots, prepared possibly by their own hands, or under their personal supervision, the use of electric battery, the electric fan, etc., on a hysterical or neurasthenic female, that possibly the patient was suffering from a pelvic inflammation occasioned by a foul womb? a mucous membrane that had been absorbing and distributing constantly toxic elements that are coursing through the system of the fair female, poisoning her whole system, producing symptoms that might easily tally with those of neurasthenia?

Neurasthenia? Of course neurasthenia, *nerve prostration*, brought about by a continuous absorption of toxic elements, producing general prostration, headache, restlessness, insomnia, frequent sighing, cold and clammy feet, gloominess, muscular weakness, inability of thought concentration, loss of interest in business or the family, etc.

What greater cause could we wish for or expect to produce these symptoms than the continual absorption of toxic elements through the lymphatics from the uterus?

It is when the gynecologist of to-day meets with such cases and carefully inquires into their histories, as for instance, whether or not she has lately miscarried, or when last she passed a probe into the uterus for the purpose of frustrating the laws of Nature (and this is not an idle question in these days of small salaries and smaller families), that he is occasionally, at least, enabled to find a pelvic inflammation (although the patient may not have complained to her physician of any pelvic trouble), a pelvic inflammation that is due to a foul uterus, which he promptly cleans out and antisepticizes, at the same time paying due attention to the emunctories, and restores his patient to health, that he is enabled to score one against the neurologist. The gynecologist has removed the cause of the trouble, the neurologist has treated the symptoms. The one cures, the other tinkers.

If we have an endometritis pure and simple, take time by the forelock and clean out the uterus before the lymphatics take up the poison and carry it into the sub peritoneal pelvic space, or the tubes take it up to form a pyosalpinx, an ovarian or a peritoneal abscess. When once the case has been allowed to go so far, (perhaps through your neglect), the condition has become grave indeed, and calls for far more heroic surgical treatment. So grave indeed that we must now put on our thinking cap and consider what is best to do under the circumstances. Shall we make haste and open the belly, take out the tubes and ovaries, unsex the individual? And shall we do this in so many minutes and seconds? Shall the operator have his timekeeper standing behind him with his split second watch in hand ready to yell out four minutes fifty-nine and three-fourths seconds, as the last ovary is snatched from the belly? Does not this surgeon soliloquize thus? "The last operator did it in five minutes, but the record must be broken and I am a record breaker." In my opinion the rapid operator is not a safe operator, and as a rule places little value on human life, but is generally proud of his statistics. I appreciate dexterity coupled with rapidity in abdominal surgery, provided it is clean work and good work. But no work can be done well when time seems to be a desideratum. Judging from what we see now and then in journals of quick abdominal work, one would be led to believe that the official time-keeper to surgeon so and so will be as necessary in the near future as the anesthetist, and the split second watch of as much importance to the race-horse, railroad time-table surgeon as is now the knife, artery forceps and braided silk ligature.

Can we not by other means often relieve inflamma-

tory troubles by more conservative surgical measures? It has been for some unknown reason stated in certain surgical text books and by some operators that to open an abscess in the cul de-sac of Douglas through the vagina is unsurgical and unscientific. Now there is no good reason for such a declaration. Such a statement needs an ample amount of qualification. To simply let out the pus that has gathered from a leaking, corrugated, crippled tube would be and should be considered only a preliminary procedure. The operation to be done in such a case is total ablation of the tube and ovary. If the pus alone is the offense, and the anatomical structures are not impaired, then by all means stop after you have incised the abscess. Do not remove a tube simply because it has been the carrier of pus into the peritoneal cavity. Open your abscess that has formed in the cul-de sac, and clean out the uterus to prevent any possible chance for the tube to gather up and convey any more pus to refill the cul-de-sac of Douglas.

W. M. Polk, of New York, formulated the propositions in his paper entitled, "Operations on the Uterine Appendages With a View to Preserving the Functions of Ovulation and Menstruation," in the following language:

1. As a rule, women are the beetter mentally and physically for the maintenance of menstruation and ovulation up to the period of Nature's menopause.

2. The minor discomforts which pertain to the function, even though they be clearly dependent upon the ovary and tube, do not require removal of these organs.

3. The appendages may be operated upon to the promotion of child-bearing (four cases out of eighty).

4. Disease of the appendages does not always demand complete removal, certain conditions permitting partial removal.

5. The condition of the ovary should be the chief factor in determining the question of procedure.

6. If the ovary contains pus, it and the associated tube should be removed, it being the rule that whenever on ovary is removed tho tube must accompany it.

7. If the tube contains pus, the ovary being free from pus or disseminated degeneration, the operator is at liberty to amputate the tube and leave the ovary; the same rule may apply in cases of hydrosalpinx and hematosalpinx.

8. Cysts of the ovary do not demand its removal, provided they are not general throughout the organ and can be enucleated—hematoma of the ovary being a pos sible exception.

9. Tubes with open infundibula, even though adherent and affected with parenchymatous inflammation and endo salpingitis, do not demand removal except when one opens into a pus cavity.

10. A tube whose outer end is closed and yet otherwise is in good condition may be opened, cleansed, and its inner and outer coats coapted, and then be returned to the abdominal cavity, provided it does not contain pus; possibly the same may apply to old blood.

11. Adhesions do not demand the removal of the tubes and ovaries, unless they be so dense that in breaking them the appendages are seriously injured. This presupposes that the appendages in themselves are not sufficiently diseased to demand removal.

12. In all cases of subacute or chronic tubal disease, it is of the first importance to treat the interior of the uterus. Curetting it with the sharp curette and then firmly packing it with gauze being the best method of treatment.

It may be that Polk is too conservative, but he is far safer than the other extremist.

But this is the point I wish to lay special stress upon, namely: In all cases where it is possible to do so, and there are many, open all abscess cavities before extirpating the tubes and ovaries. If in the sub-peritoneal pelvic cavity between the layers of the broad ligament, make your incision through the vagina, if it has been due to a ruptured tubal abscess, and the tube has taken on such pathological changes as to unfit it in function, it can be taken out at some subsequent time, provided it is the cause of the trouble. By this evacuation of pus through the vagina, the patient is often saved from the danger of shock, as in laparotomy. If a laparotomy is done, a great deal of pus is encountered, and anyone who is accustomed to do much abdominal work knows what this means. It calls for sponging and washing, and finally the drainage tube, etc. If in the tube near the uterine horn, dilate the uterus and pack the horn, and you will be rewarded with, in all probability, an evacuation of pus through the uterus into the vagina. In doing this I know full well that it is possible to dilate the tube and evacuate the pus sac. (See my article entitled "The Location of Tubal Abscess, As an Indication for Its Treatment." *American Journal of Obstetrics*, vol. xxvi, No. 21892; also "Some Further Experience in the Dilation of the Fallopian Tube for the Treatment of Abscess." "Transactions Missouri State Medical Association," 1893). If an abscess has formed near the abdominal end of the tube, and, perchance, the ovary is involved, and cannot be reached through the vaginal vault, then, of course, abdominal section is the only thing to do. But right here allow me, Mr. President, to relate a case: Mrs. M., in November last sent for me to see her for an inflammatory trouble in the pelvis. She had, I was told, had a miscarriage a week before. I found her suffering intensely, pulse feeble and the whole body bathed with sweat, an offensive odor pervaded the entire room. Upon making a vaginal examination I found a badly decomposed placenta just within the internal os. I removed it immediately with placental forceps, and putting her under chloroform curetted and washed out the uterus, and then packed it with iodoform gauze. I was aware that the poison had gone further, and that I should have to do something more, but it was too late in the day, and I had no assistance. On the next day, with assistance, I put her again under chloroform and began to make a celiotomy. After I got into the belly and

struck the abscess, from which flowed at least two pints of offensive pus, I noticed that my patient was taking chloroform very badly, and fearing that she would die on the table, and not being able to get the tubes and ovaries free from their adhesions without using force and time, I hastily washed out the abscess cavity, put in a drainage tube and closed the abdomen. Gentlemen, I am happy to say that to-day she is a well woman, and is menstruating regularly and suffers no inconvenience. I certainly think that under the circumstances I did the best thing. Had she have taken the chloroform well, and the pulse had been good, I might have dug up the tubes and ovaries and taken them out, but as it happened I did not do it, and she got well all the same.

(Since the above was read this woman walked into my office and announced that she was three months pregnant; an examination confirmed the matter. She suffers no inconvenience whatever, and I look for no complications during gestation nor after delivery. No bands of adhesions can be felt, and all her functions are normal).

Deductions.—1. Pus in quantities is hard to deal with down in the pelvis in laparotomy cases, and if possible, should be evacuated prior to taking out the tubes and ovaries, either through the cul de sac of Douglas or, if between the layers of the broad ligament at the side of the uterus, do your laparotomy at some future time.

2. Pus sacs in the tube near the uterine end of the tube can be evacuated through the uterus by packing the horn.

3. Parametritis, or cellulitis of the ancients, is, except in rare instances, a secondary trouble due to a foul uterine cavity. Clean out the cavity and stop the source of poison, and you do the best thing possible to be done.

These are my convictions and are honestly stated. Take them for what they are worth and give us yours, and let us compare notes.

Heredity and Evolution, as They Should be Viewed by the Medical Profession.

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Read before the Tri-State Medical Society, Jacksonville, Ill., October, 1894.

Heredity and evolution go hand in hand, they work together, they are inseparable; therefore in studying the one we must study the other. That two such great forces as the above exist, we are all well aware. But do we give them sufficient attention? Are we not prone to leave such subjects for the philosopher to ponder, making as an excuse that they are of too deep a nature, that the questions involved are of too puzzling a character to admit of an intelligent understanding without long years of laborious study. One must admit that the subjects are broad, that to delve down into their innermost depths and to understand all their intricacies requires careful thought coupled with diligent study, and that in order to do them justice we should give our whole time to them and to them alone. But can we not have a better understanding of heredity and evolution in a general way, by which we can take recognizance of their effects, and in so doing get to look upon them in a different light from what we do at present? It seems to me that the medical profession has not recognised their importance as they should; they have looked upon them as great facts, but have not profited thereby. Nature has furnished in these two laws two of her greatest lessons; she shows what brings about good results, and what brings about evil, and in so doing she points out to us plainly the way to increase the good and the way to prevent the evil. But I repeat it, have we profited thereby?

Before proceeding to take up the effect of these laws, and the benefits that would be derived from the proper recognition of them, let us look at the meaning of the words evolution and heredity.

Heredity, as we understand it, giving a general definition, is the inheritance of certain qualities or tendencies.

Evolution means the gradual development of an organism, or of one or more of its parts, this development being influenced by the environments by which the organism is surrounded.

First, as to heredity: We know that the influence of heredity begins with life. That in the coming together of two cells, when a single cell from the male, the sperm, meets with a single cell from the female, the ovum, and this combination calls into being a new creature, that from then on there is infused into its makeup the racial peculiarities of the family to which the parents belong, there is further transmitted to the offspring the various peculiarities of bodily and mental conformation of the parents, as color of hair or cast of features; nor does the marvelous stop even here, for those sperm cells convey also, as we see in the human family, such infinitely complex and subtle similarities as trick of gait, tone of voice, longevity, liability to certain diseases and immunity against others, together with mental qualities and even moral bent. As might be expected, many attempts have been made by science to explain this wonderful law which governs the development of germs cells and enables them to transmit not only the gross racial characters, but the most subtle peculiarities, from parent to offspring. Some of the greatest minds of the age have wrestled with it, but with no results. Theories in plenty have been advanced, only to remain unproved. Darwin elaborated the theory of pangenesis to explain how these germ cells become possessed of their extraordinary power.

He supposed that all the cells of the body threw off minute bodies which he called "germnules," and that these congregated in the male and female germinal cells. These germnules, it was supposed, had the power of reproducing cells similar to those from which they came, and so the germ cell through these germnules could produce a new individual, complex and identical in every particular with that from which the germ came. A very pretty teeory, sure, but of no value to science until proved, so with Herbert Spencer's "physiological units," Hackett's "molecular motion in cells," Wiesman's "unclean substance," and Negele's "idioplasm," all equally hypothetical. It yet remains for some intrepid explorer to break into this secret store house of nature, and drag forth the treasures she guards so jealously. As it is now, we are simply aware of the fact, and with it only we have to deal. It is generally admitted that the physician's mission is to prevent disease, as well as to treat it. That the science of prophylaxis is in itself the ideal manner of dealing with disease is being proven every day. Jenner demonstrated it years ago, scientists all over the world are laboring with that end in view. Why not then, when this great law of heredity presents itself, and when we know that to it is due so much of the suffering endured by humanity, and when we see the mode of dealing with it pointed out to us so plainly, why, I say, so we not take advantage of it. Here every man stands on an equal basis, every man is his own scientist, do to speak, all have equal knowledge of the question, and all can deal with it in an intelligent manner. That the human race can be benefited by proper breeding, and that great results can be obtained by the stoppage of improper breeding, is a self evident fact. Victoria Woodhull Martin, in an excellent article on the "Alchemy of Maternity," says that, "Four hun dred years before the Christian era Plato represented Socrates as urging on his pupils the analogy in this respect between the lower animals and man, and the duty resulting from it, in the following plain terms:

"Tell me this, Glaucon; in your house I see both sporting dogs and a great number of well bred birds; have you ever attended to their pairing and bringing forth young?"

"How?" said he.

"First of all, among these, though all be well bred, are not some of them far better than all the rest?"

"They are."

"Do you breed, then, from all alike; or are you anxious to do so, as far as possible, from the best breeds?"

"From the best."

"But how? From the youngest or the oldest, or from those quite in their prime?"

"From those in their prime."

"And if they are not thus bred you consider that the breed, both of dogs and birds, degenerate?"

"I do," replied he.

"And what think you as to horses," said I, "and other animals; is the case otherwise with respect to them?"

"It were absurd to think so," said he.

"How strange, my dear fellow," said I, "what extreme perfect government must we have if the same applies to the human race!"

"Nevertheless, it is so," replied he.

—*Republic*, Book 3, Chapter 8.

Martin adds: "Socrates died for bold criticism such as this; but his thought did not die. The same argument from analogy, which has been pressing on the conscience in all ages, has become actually clamorous in modern times. The physical sciences, as they have been successfully developed, have all turned by inevitable instinct toward their predestined center." Is not this true. It requires only a casual observation to see the necessity of agitating this great subject. Does the present condition of the race show a tendency towards deterioration? is a question that might be asked with impunity. How shall it be answered? If it is answered in the affirmative, is it not high time that the thinking men of the world were taking some steps towards preventing it from continuing. If it is answered in the negative, does that necessarily excuse the fact of its eventually taking place at some future time if the conditions that are now existing are allowed to continue.

It seems to me like one has only to look at two of the divisions of heredity to have impressed on him the importance of the question, namely, morbid heredity and morbid psychological heredity; the first is the transmission of a disease or the tendency to a disease from a parent to a child; examples are the various neuroses and constitutional diseases. It cannot but be apparent to every one that types of the former are increasing, that in spite of our model insane asylums, that in spite of good care and treatment, more cases of insanity are reported each year, our state institutions are being overcrowded, one cannot help but notice the large number of private institutions that are starting up all over the country for the treatment of nervous and mental diseases. Every day new ones are being added to the list. What is causing this overflow? one is led to ask. Some answer it by saying that owing to the rapidly increasing population competition in all lines is becoming sharper; as a result the struggle for existence is greater, the intense desire for gain at all costs is more manifest, therefore increasing the strain on the nervous system, til, unable to bear up longer, it weakens and falls. This is true to a certain extent, but back of all this is there not some inward tendency manifesting itself which aids in bringing about these results in nearly every case? That heredity forms one strong etiological factor in insanity is admitted, and may it not form an even more important one if we did but know it? Indirectly, perhaps, but still causing its influence to be felt. Dr. Price in an article on "Heredity" says: "It has been claimed by some authors that insanity is always hereditary, and with this view I am inclined to coincide. Of course there may be cases of loss of mind from traumatism, or a delirium from disease, which may become chronic and perhaps classed as insane, but insanity per se is almost, if not always, the product of heredity. The testimony

of the relatives of the insane does not amount to much. They will claim that there never was any insanity in the family from 'away back on either side,' but such statements are of little value. Insanity is not always recognized even by neighbors and relatives. They pass as "eccentric," 'absent minded,' 'queer,' etc., but there is a neurotic diathesie that will sometimes show itself in a case of undoubted insanity." He quotes Fielding Blanford as follows: "Though the parents may not have been insane, they may have been chronic drunkards, epileptics, hypochondriacs, weak minded or have indicated their nervous condition by chorea, stammering, and the like, and although the parents may not have been insane, insanity may have existed in their parents, and reappeared in the grand-children, skipping a general." ("Insanity and its Treatment.")

Of the constitutional diseases, scrofula, consumption, syphilis, and rheumatism, furnish examples. In most of these heredity is the active causative agency. Go and attend any of the free clinics in our large cities, and you cannot help being impressed with the fact that a large majority of the patients suffer from a scrofulous diathesis; that this is aided by the bad hygienic surroundings and overcrowding in dirty tenement houses no one will deny. But the fact that children are, born generation after generation, inheriting this taint, ought of itself to awaken thought enough on the subject to invent plans of relief. So long as such a state of affairs is allowed to continue, so long will this class of people be useless, morally as well as physically, for the filling out of the model life which an all-wise Creator intended, so long will they be a drain on and a drawback to our Commonwealth. Consumption, that dread disease which medical science has battled with unsuccessfully since first discovered, is in a large proportion of cases due to heredity. Dr. Delafield, speaking of the etiology of consumption, says: "For the development of tuber cular inflammation in any part of the body, there are necessary the *proper predisposition of the individual*, a local cause of inflammation and the growth of tubercle bacilla (Pepper's "Practice on Medicine," Vol. II.). Although a great advance was made when the bacilla tuberculosa was discovered, we must admit that as yet, no destructive element has been discovered whereby we can successfully combat these germs, and that the only real value we have derived therefrom lies in our being able to recognize the disease in an earlier stage and by change of environment seek to bring about a cure, but that this is not practicable in all cases every physician knows, and at the same time that we are endeavoring to find a cure or to alleviate in some degree this dread disease, consumptives continue to beget their like unless prompted by their own thoughts in regards to their duty towards the human race. It will not be necessary to dilate on the others that go to make up this important group, only to repeat what has been said, that in them all heredity is one of the chief etiological factors.

Now let us look at the second division, Morbid Psychological Heredity. By it we understand the inheritance of abnormal psychological tendencies. At the present time the questions that are agitating the minds of our great thinkers are the current sociological problems. The fact is, their importance is being impressed more and more upon not only those who are wont to deal with such, but the great mass that compose society proper. People are being forced to recognize the fact that crimes of all kinds are increasing; on every side shocking brutalities are being committed which causes society to shudder and cry out for a remedy. Jails and reformatories are overflowing; even the fear of capital punishment does not seem to lessen the number of crimes. Every State is each year compelled to expand larger sums of money for the proper handling of its criminal classes. To what can we attribute this vast increase of crime? Here again heredity plays a marked role; to say that it is the cause of nine tenths of the crimes committed is a statement that can be verified. Dr. Dugdale has traced the inherited tendency to crime or criminal propensity through six generations of the progidy of a depraved woman by the name of Margaret Jukes. Of seven hundred and nine individuals who constituted the subject of his study, the majority were criminals, consisting of theives, prostitutes and idiots. Many other observations of a similar nature have been made by those who have given thought to this subject, and almost everyone has observed the fact that the children of reprobate parents are very apt to inherit their vices. In fact, observations seem to establish the existence of a "criminal diathesis"—an inherited predisposition to immorality and crime, and it seems perfectly reasonable that the offspring should inherit the low moral nature of its parents. Darwin says: "Character of all kinds, whether old or new, tends to be inherited.' One need only be a student of human nature in order to recognize this fact.

Now that we have looked at these two divisions of heredity and endeavored to show you their importance, the question naturally arises: "How shall they be dealt with?" Now, we would call your attention to the second division of our subject, namely, the law of evolution as influenced by environment, for it seems to me that in it we can place our greatest reliance for the attainment of perfect results. By evolution we are taught that the tendency of man under congenial environments is ever towards a higher plane, be that plane mental, moral or physical. Evolution modifies the individual and suits him to his environment, and heredity perpetuates this modification in his descendants. Were it not so, every change in the individual brought about by training, education and mode of life must of necessity cease to exist with the life of the modified individual, and without evolution heredity could only reproduce the one changeless type, and all nature would be at a stand-still. Rebot says: "These modifications, as they accumulate, and in the course of time become organic, make new modifications possible in the succession of generations. Thus heredity becomes in a manner a creative power." Looking at the subject in this

light, we cannot fail to see that if we place an individual where his surroundings will be of such a nature that they will tend towards both his moral and physical elevation, that the laws of evolution and heredity will step in, one to modify the individual and to suit him to his environments, and the other to perpetuate these modifications. But first, we must institute some method or methods by which we can succeed in controlling the present state of affairs to some extent, or entirely, before the working of these laws cad be of any practical benefit to us.

It is a fact that there is a straining after the normal, or tendency to revert to the original, always at work contesting the ground, as it were, with heredity. Results have proved that if the weak mate with the strong there is a tendency towards the strong in the offspring. That if the healthy mate with the diseased, the offspring, instead of inheriting the qualities of the diseased parent, will tend to inherit the qualities of the healthy, thus showing us how ready nature is to correct wrongs if she is but given a chance. But when two with similar natures mate, as the weak the weak, the unhealthy the unhealthy, one can readily see the tendency is to increase the effect in the offspring, and inevitably lead to total destruction of the race, for nature will not tolerate such a condition of affairs, and will punish the breaking of her laws by complete annihilation. Hence we have the rule that the offspring of individuals of different varieties from the normal tend strongly to revert towards the normal, while the offspring of those of the same variety tend to retain the characters of that variety.

Dr. Strahan, of London, in an excellent article on "Marriage and Disease," says: "Nature is ever more ready to assist the doer of good than the evil doer, and if men and women would but spend a thousandth part of the time, trouble and expense upon the improvement of the generation to come that they do thoughtlessly, and in some cases deliberately, to encumber the inheritance of their children, the present amount of suffering would be vastly reduced, and the world would be much happier than it is. But so long as men and women will set the hectic flush above the ruddy glow of health, consider curve of lip or eye-brow of more importance than mental or moral bent, prefer length of purse and social rank to the happiness of their children, 'willfully frustrate the whole purpose of their being and selfishly ignore the laws of hereditary transmission,' so long shall the unfit be begotten, hereditary disease flourish, and immense avoidable suffering continue in the world, as the sins of the father and mother are visited upon the innocent children."

I will again quote from Dr. Price's article on "Heredity." He says: "If the facts herein presented are true, that the mental and physical qualities, morality and vice, virtue and lewdness, perfect and deformed bodies, health and disease, can be transmitted to offspring, as well as the fact that there can be no reasonable doubt that the transmission of hereditary disease can be as effectually prevented in the human race as in domestic animals—then the moral that I would impress is that the mating of human pairs should be under as wise control as the breeding of stock." Every intelligent medical man cannot fail to see the truth of the above statements, and to feel that if there is any work to be done in this direction, that he will be an important factor in that work. That something should be done, and that something will be done, sooner or later, seems inevitable. Just what plans would be best in order to bring about the desired results is a matter of much speculation. As we have proved the people will not be guided in such questions by their own conscience, and that a large majority are ignorant of the dire results and are therefore not accountable, and should not be held so. Then it seems that some step should be taken whereby the continuance of this great vice could be effectually stopped, or so far controlled as to eventually lead to a complete stoppage. And that step will have to be one that all classes will be able to recognize and forced to abide by. It will be the passage of proper laws compelling people to obey and punishing them if they do not. Later on will come the proper training, and then we will see the value of evolution. But first stop the evil, recommend the good, and the result will tend toward the development of a perfect race. As to the wording of these laws, and the limit that should be put upon them, many opinions might be advanced. But considering the points that have presented themselves, I think one is justified in presenting the following for consideration:

1. That each State should pass laws preventing the intermarriage of all persons who would come under the following headings:

a. All those suffering from the various neuroses, epilepsy, insanity and severe cases of chorea.

b. All those suffering from such constitutional diseases as consumption, scrofula, syphilis and leprosy.

c. All criminals coming under the head of murderers, theives, prostitutes, etc.

2. a systematic crossing of the breeds in cases of a mild character, thus aiding Nature to revert to the normal.

3. That the physicians of each community constitute an examining board before which all parties contemplating marriage shall be required to appear and submit to the necessary examinations before they can be allowed a license, a record being kept showing the result of such examinations, to which shall be added the births resulting from such unions, with a record of the physical and mental condition of the child.

4. That the violator or violators of the first law be liable to punishment the same as in the violation of any law.

5. That the physician or physicians who neglect to fulfill his or their duty, as mentioned above, be liable to punishment the same as in the violation of any law.

6. That there be instituted into our educational system studies by which the masses will become more enlightened on, and have a more thorough understanding

of, the great laws of nature, and the evil results arising from their abuse.

That the above rules as laid down are very stringent one must admit, and that many objections would be raised against them I have no doubt. But in closing, I will say with Dr. Strakan that I believe that "there are many thinking men and women who, if they understood what a terrible legacy their children *must* take with their breath of life, would accept the inevitable, and renouncing all the pleasures and pride of the matrimonial state and maternity, let their miserable estate lapse at their death, for want of an heir."

Trional as a Hypnotic in Asylum Practice.—In the treatment of the protean forms of mental disease encountered in asylums for the insame Trional has proven a safe, reliable and effective hypnotic and sedative, pleasant to take and free from irritating effects on the gastro intestinal tract. The latest contribution to the therapeutics of the remedy is an article by Dr. Karl Grunfeld, a physician to the Insane Asylum at Budapest (*Pester Med. Chirurg. Presse*) who has carefully compared the action of Trional with that of other hypnotics in forty cases. The following is a resume of these experiments:

In simple agrypnia, melancholic depression, conditions of moderate depression as well as mania not attended with violent hallucinations, a refreshing sleep of six to eight hours' duration is produced often by doses of 1.0 gm. and always by 1.5 gm., the dose need but rarely be increased to 2 0 gm. and if so especially in paralytics.

The agrypnia which in secondary dementia is usually dependent upon conditions of irritation, or is caused by the varied hallucinations of the insane, can frequently be combatted by 1.5 gm. Trional and 2.0 gm. will fail to exert an effect only in special and exceptional cases.

In the more active conditions of excitement of chronic mania, and in paralysis attended with moderate motor restlessness, 2 0 gm. Trional usually had a reliable action the effect being absent or very slight on the first, but satisfactory during the following days.

In paralytics suffering from extreme motor and psychical maniacal excitement a satisfactory effect can only exceptionally be expected from 2.0 gm. Trional, while in many cases even 3.0 gm. proved inactive.

As a sedative Trional was tested in but one case and gave very satisfactory results. Grunfeld thinks that smaller doses will be required for this purpose, since 1.0 gm. sufficed to produee sleep in a case of chronic mania. A good effect was also obtained from the remedy in fractional doses in a case of obstinate restlessness produced by marked hallucinations. In conclusion the author remarks that while the introduction of Trional in psychiatric practice must be regarded as a gain, this concerns even more the general practitioner, since in the forms of insomnia met with by the latter the remedy proved of positive value.

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Hospital Cases and the Daily Press.

The clinical reports emanating from the City Hospital seem to flourish with unabated vigor. Not only are the diseases described minutely from which the unfortunates suffer, who happen to excite the curiosity of a reporter, but their names and addresses are given in full. A certain percentage of such persons as gain a pathological notoriety through the papers possibly do not feel hurt by the publicity given to their ailments. We will admit even that some feel flattered by seeing their names appear in the daily papers in connection with the remarkable and skillfully performed operations. This is evidenced by the fact that some patients who have been treated by advertising doctors seem to be delighted to have their pictures and a full description of their disease in the daily press.

On general principles it may be stated that such publications are simply an outrage on common decency. Any person of ordinarily developed sensitiveness (and the average individual is sensitive to his physical defects or ailments) is naturally averse to having his misfortunes, undeserved as they are in the vast majority of instances, dished up and served with the sauce of ridi-

cule to the morbid curiosity of newspaper readers. The climax of cruelty and brutality, however, is reached when an unfortunate becomes insane and his hallucinations and insane actions become the subject matter of a reportorial article. A short time ago a daily paper of this city gave the report of a young girl of 17 years, whose chief hallucination was that she imagined that the birds were talking to her. With great minuteness the delusions of this *funny* person were described, and her full name and the number of the house and name of the street where she lived, were given.

Any one who is familiar with the history of insane persons knows through what an amount of mortification these unfortunates have to pass after their recovery (if they ever do recover), and how they are haunted for the rest of their lives with the memories of the insane asylum. Again, it is an every-day observation, familiar to every physician of experience that cases of insanity, when it does occur in the family, are kept from public knowledge as long as possible. Any allusion to such a misfortune is painful and annoying to the members of the family in which such a misfortune happens. Although entirely irrational and unjustifiable, the fact remains, that insanity is looked upon as a stigma by the public. It is considered a disgrace by the sufferers themselves after they have recovered, and constitutes a never-failing source of humiliation later on. Publicity in such cases is, under ordinary circumstances, an ample source of mortification, but by such heartless reports the harmful consequences to the future of the innocent sufferer are multiplied an hundredfold. The dictates of the most elementary kind of humanity protest against this sort of newspaper enterprise. But the editors, probably from ignorance of these matters, do not look at it in this light. We would like to propose to them this simple question: Would you publish such detailed reports of ridiculous delusions if they happened to a member of your family; say, for instance, your sister or mother?

Metritis and Prolapsus Uteri.

This was the title of a paper read by Bonilly at the Societe de Chirurgie de Paris, seance of April 18, 1894 (*Annals of Gyne. and Ped.*). The speaker said that when the painful symptoms were examined in women suffering from diseases of the genital organs, it is often difficult to say what part the uterus plays and how much the nervous system is at fault. Thus, glandular cervical endometritis, hemorrhagic endometritis, and the greater part of the cases of endometritis, without extension to the uterine parenchyma or adnexa, are indolent diseases by themselves. On the contrary, pain is frequent in metritis of cervix, following a tear (parenchymatous cervical metritis with sclerocystic degeneration). It is met with also when the metritis has attained the muscular layer of the uterus (total parenchymatous metritis, with hemorrhages and glandular secretions). The painful functional disorders are at their maximum when the total metritis is added to a lacerated and weak perineum, relaxation of the ligaments and lowering of the uterus. In other words, the infection following laceration of the cervix, the ulterior metritis, total or cervical, complicated with a too weighty uterus, a relaxation of the pelvic floor combined with a certain degree of prolapsus, produced a particular symptomatic complexus. The patient complained of pain in the lumbar and sacral regions and in the thighs. The erect position, walking, etc., could not be prolonged without speedy fatigue. The horizontal position gives relief; there are no acute inflammatory attacks in the pelvic organs. Dyspeptic troubles with flatulence and constipation are usually present. Sometimes ptosis of the kidney or liver is discovered. At last, after a certain time. queer, tenacious nervous symptoms are observed that have been decorated with the name of neurasthenia. The physical signs consist in laceration of the perineo-vaginal floor, prolapsus, and a parenchymatous metritis, either cervical or total; the adnexa are healthy. A complex therapeusis should be instituted for this complex condition, and each morbid element should be treated singly and simultaneously with all the others. The uterine mucous membrane and parenchyma, the peritoneal floor are treated at the same seance, if no one of these lesions are desired to remain and all are to be cured at the same time. In the first place, a curettage of the uterine cavity is done, then an amputation and restoration of the cervix is performed, in order to remove the embryonic tissue, and the glands that have undergone sclerocystic degeneration, and, lastly, the seance is terminated by perineorrhaphy to restore the statics of the pelvis. For ptosis of the abdominal organs, suitable bandages, such as Glenard's, are applied.

A Concrete Medical Advertisement.

The following advertisement is from the *Texas Health Journal* for August:

To the Medical Profession of Texas.—I have devoted many years to the exclusive treatment of diseases of the Eye, Ear, Nose and Throat. That I might feel doubly assured of my ability to treat these diseases, with the best possible skill known to the profession, I spent the last winter, spring and summer in New York and Europe, where I received the special clinical instructions under the most distinguished specialists in the world. My many months of clinical work at the greatest hospitals and clinics in the world, together with the new instrument and apparatus I purchased in Europe regardless of price, cost me nearly two thousand dollars. I now respectfully ask that the general practitioners of Texas who have not the time and instruments to successfully treat such cases, kindly consider my recent advantages and complete armamentarium, and entrust to me the responsibility of treating such cases. If this

courtesy is extended to me, I will be true to the trust confided. Besides, I will make it especially advantageous to every physician who kindly refers cases to me for treatment; try and see if I do not; a hint to the wise is sufficient. Furthermore, I will take pleasure in treating any member of a physician's family, absolutely free. I will also treat any charity case free referred to me by a physician. My present large paying practice enables me to do this without loss to myself; besides, the pleasure of curing those unable to pay is sufficient remuneration to me. I have opened an elegant new office in the North Texas Bank building; rooms 316, 317 and 318. Call and see me while in the city.

Fraternally submitted.

J. R. Briggs, M.D., Dallas, Texas.

It will be noted says the *American Lancet* that the above appeared in a public-health journal, circulating presumably among the intelligent classes of the laity as well as among physicians and sanitarians. The end aimed at by this advertisement is sometimes accomplished by reading a paper before a medical society in which all the essential facts given above are stated, with exhibition of the instruments, and cases to illustrate work already done, etc. After publication in a medical journal, reprints are made stating street number, etc., of the writer, and these are scattered broadcast among the profession and laity. Other methods of doing the same thing are used by different specialists and surgeons. If these fail or are insufficient, a hospital or dispensary or medical-college appointment is secured; or if none can be had, a new institution is started for the express purpose of advertising the advantages and outfit of the doctor.

Which method is in best taste, most effective, and best promotive of the interests and honor of the medical profession? The young doctor wants some method of getting his capabilities before the laity. Which one shall he select?

Formerly it was said that the young doctor must care for the charity and accident cases, and so work his way up to an acquaintance with the people who might select him as their medical attendant. But the multiplication of dispensaries and hospitals and city poor-physicians, etc., has taken away most of such material, and the free hospital ambulances have still further reduced the amount.

CORRESPONDENCE

Marriage of Syphilitics.

Editor Medical Review.—For the purpose of securing reliable statistics on the subject of the "Marriage of Syphilitics," I desire to enlist the assistance of those of your readers who have had experience which will be of value in determining the period when this disease ceases to be communicable and inheritable. I shall, therefore, esteem it a great favor on the part of any physician who will send me answers to the following questions; and due credit will be given in a future publication to those who desire to aid me in the work:

1. What is the latest period from the date of the initial lesion that you have known the disease to be communicated by a patient who has been from the first under your observation?

2. What is the latest period from the date of the initial lesion that you have known: (*a*) a syphilitic man, or (*b*) a syphilitic woman to become the parent of a syphilitic child?

3. Have you ever known syphilis to be either communicated or handed down, at a later period than four years from the date of initial lesion by an individual who has been constantly under your observation during that time?

In answering these questions I should like a brief but complete history of each case, and an account of the treatment that has been pursued.

I hope by this means to obtain the experience of a large number of observers and to reach a fairly reliable conclusion as to the time when we may safely permit our syphilitic patients to marry.

Burnside Foster, M.D.

St. Paul, Minn.

ABSTRACTS

MEDICINE.

Intra-Laryngeal Therapeutics. — Gordon Sharp, in writing on this subject, says that, like everything else under the sun, the idea of the treatment of diseases of the respiratory tract by the direct application of drugs to the interior of the larynx is not a new one, but it is only within eight or ten years that it has been practically employed, and that in Edinburgh and Vienna chiefly (*Lancet; Therapeutic Gazette*). At first intra-laryngeal injection was chiefly made use of in the treatment of phthisis, either with the view of applying antiseptics directly to the lungs, or of killing the bacillus, or of alleviating the troublesome cough. If with the former intention, it is certainly highly utopian.

The latest contribution to the literature of the subject from the pen of Professor Grainger Stewart shows the value of this plan of treatment in bronchiectasis, and it is probable that this is the disease which is likely to be most influenced by intra-tracheal treatment. By the old-fashioned methods of giving creosote or guaiacol by the mouth or by inhalation, patients are made ill before one is able to do them much good, for it cannot be

doubted that some of the attacks of sickness and vomiting which occur in the course of the treatment of bronchiectasis by the persistent use of creosote are due to poisoning, and at the best one may only be setting a thief to catch a thief, for some of the ptomaines due to decomposition of the secretions in the dilated bronchial tubes must have entered the circulation. By applying creosote, guaiacol or other antiseptic directly to the interior of the trachea, whence it is certain to trickle down into the bronchial tubes, one may be able to prevent to a great extent the formation of putrefactive bodies, and it is the author's belief, founded upon experience, that this may be accomplished, and that by passing down antiseptics the patient can be prevented from giving himself mild attacks of septicemia, which not only wear out his strength, but may even cut him off, and he is being placed on the high road towards recovery. The most probable cause of bronchiectasis is an atrophy of the walls of the bronchial tubes. The resulting dilatation is not a final one, but goes on increasing unless checked, and nothing so much tends to aggravate the condition as the filling up of the cavities and decomposition of the contents, with the production of foul gases. Now, if the secretion can be lessened and at the same time kept comparatively sweet, the tissues are given a chance of regaining a certain amount of tone, while at the same time those septicemic attacks already referred to are prevented, while also the comfort of the patient is increased by diminishing the disagreeable odor and by relieving the irritating cough so frequent in bronchiectasis. Drugs injected into the trachea, while exerting a local action in the lung and bronchial tubes, find their way into the circulation, as proved in a case. A solution of menthol and guaiacol in olive oil so administered was detected in the urine in two hours, or rather the menthol was found, but the guaiacol could not be discovered, although tested for on several occasions. This points to guaiacol being broken up in the kidneys into some body which does not give the reaction. One can hardly hope to obtain brilliant results by the intra-laryngeal method in cases of phthisis. Antiseptics so used have little effect upon the course of the disease in general; but for the alleviation of the cough a ten per cent solution of menthol in olive oil, or in one of the pure preparations of the higher paraffins is often of great service.

So much want of knowledge exists as to the process of intra-laryngeal injection that one may be excused for giving a short account of the manner in which it is carried out. Although at first sight it appears to be a difficult operation, it is really a very simple one and easy of performance, only requiring a little boldness. The author has performed it nearly a hundred times, and on no occasion have any of the patients vomited. The patient sits facing the light; ask him to take hold of his tongue and pull it well forward and to take a few deep breaths. The latter not only fill the chest, but likewise render the throat less sensitive. The operator either stands or sits not quite opposite to the patient, a little to the right. The syringe having been previously filled and rendered free from air by forcing a little of the fluid along the tube, the nozzle meanwhile being turned upward, he then passes the point of the syringe over the middle of the tongue; in this way the tip of the epiglottis is avoided. The operator should endeavor to just clear the tongue and strike a line which would pass straight along the middle of the dorsum of the tongue, and when extended backward would touch the back wall of the pharynx. In this way he reaches the glottis, and gently but firmly forces the nozzle of the syringe into the trachea at the moment the patient takes a deep inspiration. The patient soon gets to know when the syringe has gone to the right spot. The piston is now moved and the fluid drops slowly into the larynx. One must catch the glottis just as a deep inspiration has been taken, for soon the patient wants to inspire again, and with the glottis plugged this is impossible; but in every case the writer has found the time sufficient in which to inject one fluidrachm of oily fluid, and, if it is desired, the operation can be repeated even five times at a sitting without evil effects; in fact, in no case have I found the least discomfort follow. The first time of applying a five per cent solution of cocaine hydrochlorate may be painted over the throat to render it anesthetic, but the after-effects are dreaded by the patient who has once had this treatment, and if the syringe be boldly handled the patient experiences no discomfort. It is the shaking hand which causes tickling and so retching. It is like swabbing out the throat. The experienced laryngologist never causes his patient to vomit; it is only the beginner who is afraid to "lay on" who does that. At first it is perhaps also advisable to employ the laryngoscope, but in using a it single movement of the patient renders all dark, and as soon as confidence is gained it may be given up. The syringe the writer employs is one known as the Beehag in Edinburgh. The barrel is of glass and the mountings and nozzle are of black vulcanite, while the finger-rings are of electroplated material. It is objected to by some that this nozzle, being of vulcanite, cannot be boiled, and so disinfected, as could be done were it of metal. This difficulty can be so far overcome by the use of antiseptics and by each patient having a nozzle for himself. This does away with all likelihood of disease being conveyed from one person to another. Vulcanite being softer and more pliable than metal, there is less likelihood of injuring the soft parts. When about to use, the nozzle is screwed on and the point is turned upward, the piston being slowly moved so that some of the solution is ejected and all air removed from the nozzle and barrel.

As already stated, the vehicle for the application of drugs in this way may either be olive oil or one of the paraffins, and perhaps the latter is to be preferred because it does not become rancid. The drugs employed are chiefly of an antiseptic nature and belonging to the aromatic and tar series, such as creosote, guaiacol (two per cent), menthol and thymol (five to ten per cent),

salol (five per cent), salicylic acid (two per cent), carbolic acid (one per cent), and other drugs. A useful combination is the one suggested by Professor Grainger Stewart, consisting of guaiacol (two per cent), menthol (ten per cent), and olive oil (eighty-eight per cent). It is non-irritating, and one or two fluidrachms may be injected into the trachea twice a day in cases of fetid bronchitis, bronchiectasis, or pulmonary phthisis. Other drugs may be used, provided they are conveyed in a non-irritating fluid and are of such a nature as not likely to cause local injury.

Causes of Frequent and Painful Urination.— Dr. R. L. Rigdon (*Occidental Medical Times*) gives the following as the causes which produce frequent urination:

a. Any condition that will bring about increased irritabilitiy of the vesical mucous membrane, as inflammation, congestion, neuralgia, drugs, etc. As the urine enters the bladder it comes in contact with a membrane that is hyperesthetic—more ready to respond to stimulation. A less degree of distention is required to set in motion the reflex phenomena, and consequently the act is more frequently repeated.

b. Abnormally irritating contents of the bladder. Given a mucous membrane that is normal, and unusually irritating contents will stimulate the nerve endings and will result in increased contraction and frequent evacuations. It has been determined that the bladder will retain more of normal urine than of any other fluid, consequently any deviation will render it more irritating. This is seen in hyperacidity or the revers condition, alkalinity; also in those pathological states in which pus or blood, or other foreign material, is present in solution. Under this heading must also be classed foregin dodies, calculi, for these unduly stimulate the sensory nerve endings.

c. Increased secretion of urine. Let the bladder be normal and its reflex arc intact, and frequent urination may arise because of an abnormally rapid filling of the viscus, as in diabetes, hysteria, and in diminished elimination of fluid throughout the integument. This is readily understood. Whenever the bladder contains a certain amount of urine, or reaches a certain degree of distention, micturition occurs. If the bladder refills rapidly, the required distention will be soon reached and early evacuation recur.

d. Diminished capacity. The capacity of the bladder may be diminished to such a degree that a small amount of urine will produce sufficient distention to bring about contraction strong enough to cause evacuation. This arises in concentric hypertrophy or tumors within the bladder, or pressing upon it from without. Residual urine will also diminish the working capacity.

e. Irritability of the vesical center. Any condition that will produce an undue irritability of the vesical centres in the cord or brain may give rise to the symptoms we are considering. This is rarely seen as a primary lesion, but is usually secondary to some peripheral disturbance.

f. Reflex influences. Many cases of frequent urination will fall under this head. The sacral plexus which supplies the bladder also innervates the urethra, rectum, perineum, and other parts far removed. Implication of any of these branches may manifest itself in disordered micturition. Kidney disease is an example; so also, is urethral stricture, phimosis and balanitis. A proper appreciation of this fact will frequently enable the surgeon to give relief when otherwise treatment might be almost futile.

g. Mental impressions, as fear, anger. Mental labor associated with worry is prone to produce frequent urination. This is seen in those engaged in hazardous business enterprises where large amounts are at stake.

h. Paresis of the vesical sphincter. The lesion causing this paresis may be either central or peripheral. Tumors, cerebral embolus, tabes dorsalis, are examples of the former. The latter is due to impairment of the sphincter motor nerves. In either case the faulty action arises from disturbances in the reflex arc.

It will be observed that many of these specific causes act in more than one way. Residual urine will not only give rise to this symptom by diminishing the capacity of the bladder, but the decomposition that occurs in it will light up an inflammatory reaction and thus render the nerve filaments unusually susceptible to irritation.

Many of the conditions that give rise to frequent urination will also produce painful urination. In following out the plan of this paper it may be necessary to repeat what has already been said.

The general causes of dysuria may be grouped as follows:

1. Hyperesthesia of the mucous membrane of the bladder and urethra.
2. Abnormal urine.
3. Foreign bodies in the urinary tract.
4. Pressure upon adjacent inflamed parts.
5. Reflexes from nerve related parts.
6. Implication of the nerve centers.

Under the first heading, hyperesthesia of the mucous membrane, we make two subdivisions: (*a*) that of the bladder; (*b*) that of the urethra. The first may be caused by inflammation, either simple, specific or tubercular, congestion, neuralgia, ulcers, fissures, tumors and prostatic hypertrophy. In simple or gonorrheal inflammation the pain will appear promptly with the onset of the disease, and will be in proportion to its intensity. In general inflammation the pain will be the greatest at the beginning of the act, *i.e.*, when the bladder is most distended and the sensory nerves most strongly pressed upon. If the inflammation is localized at the vesical neck, the pain will be most intense at the termination of the act when the contracted muscle grasps the sensitive membrane. In tubercular inflammation the manner of invasion will have much to do with the production of

pain; if the mucous membrane is first attacked, this symptom will be present, as in the varieties just described, but should the invasion come through the serous covering or in the muscular coat, grave changes in these structures may take place before sensory disturbances are noted. Neuralgia is often irregular in its appearance and transitory in duration; while it may occur at any time during the act, it is more often felt at the beginning. In many cases but little pain is associated with hypertrophy of the prostate; it is only when the enlargement has attained sufficient size, or is so situated as to intefere with the outflow of the stream or the complete emptying of the bladder, that sensory disturbances are acutely felt. In these cases the pain is usually due to the secondary inflammatory changes that occur. Tumors will give rise to painful urination, chiefly as they are associated with inflammatory changes in the mucous membrane. Ulcers and fissures produce continuous pain, but it is augmented by contraction of the bladder.

b. Abnormal urine. There is a physiological variation in the density and reaction of the urine, but when it passes beyond a certain point in either of these directions it becomes an irritating substance. In some deranged conditions of the general system some of the normal solids of the urine may be relatively increased or diminished, or unusual substances may be filtered from the blood by the kidneys Examples of this are oxaluria, lithuria, concentrated urine. Pus or blood in solution in the urine may so alter its character as to render the bladder intolerant of its presence. Many drugs, as turpentine and cantharides, that have a selective action upon the pelvic viscera, including the genito-urinary apparatus, are removed from the general circulation by the kidneys, and may render the urine extremely irritating.

c. Foreign bodies. That foreign bodies in the bladder or urethra will cause painful urination, needs no explanation; their *modus operandi* is pain. They may be divided into two general classes—those formed within the body, and those introduced from without. Under the first variety will be classed the various examples of calculi and gravel, and the vesicles and hooklets of kidney hydatids. Under the second may be grouped a large number of articles, as glass, needles, pieces of sticks, broken catheters. One patient, who came to the clinic last year, had lost in his bladder a pencil of fat pork, six or eight inches long, with a string attached. He suffered most intense pain prior to its removal.

d. Pressure upon adjacent inflammations. Painful urination may arise from pressure of a distended bladder or urether upon adjacent inflamed parts. Sometimes a vesicula seminale is the seat or inflammation. As the bladder fills and presses more and more upon it, much discomfort is produced. The pain is relieved after the bladder is emptied. It is well to bear this in mind, as the lesion is easily overlooked. Pressure upon a prostatic or perineal abscess may also cause dysuria.

e. The sensory disturbances that are felt in the bladder and urethra are not always produced by disease of these structures. Both may be entirely normal, and the disturbance referred to them from adjacent parts that are the seat of the disease. Thus, nephritic calculus, tuberculosis and pyo nephrosis may in a reflex manner give rise to painful urination. This may also be said of phimosis or balanitis, or a morbid condition of the rectum or anus or other nerve-related part.

f. Affections of cerebral or spinal centers. The exact situation of the centers of urination, both in the cord and brain, has not been accurately determined. Electrical stimulation of certain parts of the central nervous system produces evacuation of the bladder. A hemorrhage or tumor in the cord or brain may be the cause of both frequent and painful urination. This is true also of an embolus.

The American Disease.—It is a remarkable fact that many of the most valuable discoveries in materia-medica have been made by laymen, and not until after a lapse of years adopted by the scientific world. The marvelous stories told by travelers of the uses to which the leaf of the Erythroxylon Coca was put by the South American Indians were received *cum grano salis* by the general reader and met with ridicule from the medical world, and not until recently was attention really fastened upon the "miraculous leaf," as it was called by early writers.

The fact that the Indian traveled for days carrying heavy burdens without food, being sustained by the leaf only, demonstrated its powers in sustaining vital energy and restraining tissue metamorphosis. This suggested its use in Phthisis and all forms of anemia, in debility following fevers and after surgical operations. Coca has now taken its place as a reliable remedy in many conditions, such as sleeplessness, despondency and as a general and heart tonic and invigorator. Its property of strengthening the voice, due to its being a tensor of the vocal cord, makes it very useful for the singer and public speaker, and it is a reliable aphrodisiac without being irritating.

Ordinary Coca Wines have some value in promoting digestion due to their stimulating properties, but many of the wines on the market are improperly prepared or have too high a percentage of alcohol, which impairs the true therapeutic properties of the Coca. Among the later preparations, one known as "Maltine with Coca Wine" has attracted our attention. The well-established reputation of maltine as a food and digestive agent and as a vehicle was a guarantee that the combination of maltine with a carefully made Coca Wine prepared from fresh leaves and containing a small percentage of alcohol, would prove a valuable acquisition to our list of elegant pharmaceuticals. When it is known that each ounce of Maltine with Coca Wine contains enough diastase to digest thirty ounces of starch at the bodily temperature and all the active principles of thirty grains of assayed Huanaco Coca leaves, its value will be readily admitted.

"The American Disease," an irritable heart combined with indigestion and nervousness, so common among our business men and almost universal among women of the upper classes, presents a problem of ever-varying embarrassment to the clinician. Alcoholics may mitigate the symptoms of this condition temporarily, but lead to disastrous results. To try to give relief with opiates is little less than homicidal. Maltine with Coca Wine is an ideal combination in these cases, not only on account of the Coca but from the food and diastasic values of the maltine, and is not followed by habit symptoms, for when the condition is relieved, the remedy is no longer needed and its withdrawal is not followed by depression. In this particular, Coca differs from all other stimulants and narcotics.

A well known writer happily characterizes the dual action of Maltine with Coca Wine in the following graphic manner: "The Coca boosts the patient and the maltine furnishes the peg that prevents him from slipping back." Other tonics afford only temporary stimulation with nothing to prevent the subsequent reaction.—*National Medical Review.*

Remarkable Results in the Treatment of Epilepsy.—About a year ago I commenced using your hydrocyanate of iron in epilepsy and have had such good results from its use that I feel like adding something to the literature on the subject of its use in this connection. I have had marked improvement in every case that I have treated with it and complete recovery in two cases.

Case I.—Mr. M., aged 43, family history good. At the age of 20 the patient had left forearm crushed and had it amputated at the juncture of the lower with the middle third; after the wound commenced to heal patient commenced to have epileptic attacks which increased in severity until he would have on an average one a week and some days would have three or four seizures.

I saw the patient in January, 1893, and learned that he had been taking bromides for a long time, with little or no result. Upon examination of the stump I found it extremely tender upon deep pressure, due to the presence of a neuroma at the end of the ulna and median nerves. I amputated the limb higher, up giving the patient a good stump, and commenced giving the bromide of potassium in 20 grain doses four times daily to break up the epileptic habit that we find in cases of traumatic epilepsy, but the attacks continued to recur. I gave the bromides a thorough trial and finally in May, 1893, I commenced using your hydrocyanate of iron in ½ grain doses three times daily.

After I commenced its use the patient had but one attack which occurred on the next day after the iron was given. I kept up the treatment for three months and have heard from the patient since. He has never had an attack since and at present is in good health.

Case II.—Mrs. B. aged 32, married, has two children, youngest aged 5.

This patient came to me February, 1893; she gave a history of having epileptic attacks from childhood, which came on at irregular intervals, ranging from two or three in a single week to only one in two months.

I commenced using the bromides but did not get very much effect from their use. Finally in May, 1893, I commenced using the hydrocyanate of iron in ½ grain doses three times daily. After the first month's treatment the attacks grew less frequent so that in the four months thereafter she only had one attack. I kept up the treatment until December, 1893, gradually decreasing the size of the dose after the first four months until the last month when I gave patient only ½ grain of the preparation daily. This patient is in good health and has not had an attack since July, 1893.

I have several cases under treatment now and they are all improving.—F. C. Wiser, M.D., in the *Journal of Materia Medica.*

SURGERY.

Shall Fracture at the Lower End of the Humerus be Treated in the Flexed or Extended Position?—The author favors the extended position, the advantages of which are as follows:

1. It permits of the best flow of circulation, and is the position best suited to combat excessive inflammation.

2. It permits of inspection of the whole limb, and permits of comparison with its unbroken fellow.

3. It is a position in which the dressing can be applied with ease and simplicity.

4. In this position, if either condyle is broken, we have a natural splint, by means of which the natural articular surface can be preserved.

5. It is the position in which we dress fractures of the condyles of the femur, in which we get perfect joints with full range of motion.

In the treatment of fractures at the lower end of the humerus, no manufactured splints are ever required. If he has a skilled assistant, the author usually holds the limb extended, and asks him to apply the dressing. Otherwise he places the limbs in the care of attendants, and applies the dressing himself. A first dressing should always make provision for swelling. Hence, he either applies cotton or an elastic substance above and below the point of fracture, or laps about it pieces of flannel saturated in lead water and laudanum. The patient is then placed in bed and the limb made to rest comfortably upon a pillow. The renewal of the dressings for the first week must be left to circumstances. If dressed dry and the pain rapidly subsides, the first dressing is often not disturbed for a week.

As soon as the swelling subsides sufficiently, a soft bandage is applied directly to the limb. The author prefers thin flannel, butter-cloth or the thinnest, coarse-woven, cheapest muslin. In applying the bandage, he

makes no reverses except at the top and bottom when he wishes to change the direction of the bandage. He only uses the spiral and lets the bandage take its own course. By degrees, as the bandage runs up and down the limb, the whole is covered in. This mode of applying the bandage is immeasurably superior to the spiral-reverse, which latter creases the skin and slips. When the limb is properly dressed with the spiral, the bandage alone makes an excellent splint. On completing the bandage, a glutinous paste may be rubbed into the outer layer, or adhesive plaster may be made to cover in the bandage. Such a dressing will permit of easy motion without displacement.

Usually after the swelling subsides, the patient will be able to rise and walk about, but the arm must be left hanging, and not bent and put in a sling. If the hanging arm is painful, the patient should again assume the recumbent or the semi-recumbent position.

As to passive motion, if begun too early or with too much spirit, the result will be to protract the cure. Only gentle passive motion in the latter half of the treatment will be conducive to early functional return. The complete range of motion is often delayed for months after the cure is effected.—Oscar H. Allis, M D , Philadelphia, in the *International Journal of Surgery.*

Revival of the Operation on the Round Ligaments.—At a recent meeting of the New York Academy of Medicine, Dr. Munde reported sixty-four cases in which he has performed the operation of shortening the round ligaments. He stated that most of these cases had been operated upon within the last two years, although some of them dated back eight or ten years. He also remarked that he considered the operation a valuable one, and should perform it more frequently in the future than he had done in the past. Another surgeon reported almost an equal number of cases. Still another prominent New York surgeon, who has recommended ventral fixation as preferable to operation upon the round ligaments, explained the secret of the opposition to the ligament operation by the remark that he was perfectly willing that it should be per formed by those who could find the ligrments, but, for himself, he preferred ventral fixation.

It is the opinion of the writer that the whole trouble with this operation has been lack of delicacy and precision in the necessary dissection. The surgeon who wishes to succeed in it should first make a number of careful dissections upon the cadaver, so as to learn exactly the position and relations of the round ligaments. He should also operate upon the cadaver several times, so as to acquire the ability to make his external incision at the right point. After performing this operation some four hundred times, the writer feels more convinced than ever of its utility. An incision of one-half to one inch is amply large for ordinary cases, and after once becoming expert in the operation, ten minutes affords an abundance of time for completing it. The writer has done it in five to seven minutes in many cases, and very rarely requires over eight or ten minutes for completing the operation upon both sides.—*Modern Medicine*

OBSTETRICS AND GYNECOLOGY.

The Mortality Under the Cesarean Operation in Great Britain During the Last Eight Years.—R. P. Harris, of Philadelphia, writes on this topic in the London *Lancet* (*Therapeutic Gazette*):

Before discussing the relative merits of these two operations and their risks respectively, it may be well to consult the British records of the former for the period since the improved method of performing it was in a measure introduced in 1886, as there is evidently in London a prevailing error as to what has been accomplished in the saving of life in Great Britain. When we look back to the early record of Dr. Thomas Radford, with its eighty-four per cent of maternal deaths, and compare it with the results of cases we have recently collected, we find much ground for encouragement, although it is evident that much more might be accomplished in reducing the death-rate. The Cesarean operation, early performed, or done before labor, upon a good subject, has a much lower rate of mortality than when the woman has been exhausted by a long labor, and especially where the numerous attempts have failed to deliver under the forceps, version or craniotomy.

When we group together all of the cases recorded for a given country, and state how many died and how many recovered, we get a very imperfect idea of the danger of the operation *per se.* We have a general knowledge of the risk, but what we require to look into and know is why one died and another did not, and it is the acting out of this knowledge that will eventually reduce the death rate to a moderate percentage. If men had less fear of the operation, it would be undertaken in good season and result in fewer deaths. In order to find what has been the amount of loss in England and Scotland since November 1, 1886, we made a careful search for all of the published cases, and obtained the following, viz.: For London, twenty two operations: women died, nine; children lost, five. For Glasgow, thirty two operations; women died, five; children lost, (?). (We have not the results as to the children in twenty of Professor Murdoch Cameron's cases; under the other forty operations there were nine lost). For the provincial towns, six cases; women died, five; children lost, three; making a total of sixty operations, with forty-one recoveries and (?) (Ibid) children saved, a mortality of nearly thirty-two per cent of the cases, London losing forty per cent. Not being able to obtain the unpublished operations, we have failed to give a full list, but the proportion would not probably he materially altered Our record, published and not published, for the United States, commencing with 1882—the year the improved operation was introduced—now

shows one hundred operations, with thirty-eight deaths Out of the first fifty, twenty-four died, and of the second fifty, fourteen died. There were sixteen operations in 1893, with four deaths. This shows that there is no difference in the results of the two countries; both are far from creditable and might be made much more so. Our cities should at least do much better, and try to make some approach towards the success of Leipsic and Dresden. Philadelphia has made a step forward by saving thirteen women and fourteen children under her last sixteen operations; two of the three deaths were in cases having very unfavorable prognoses. When we come to examine the dangers and results of symphyseotomy, where it has been carefully and thoroughly tested, we find a more encouraging record. Professor Paul Zweifel, of Leipsic, has given both operations an extended trial, with the following results: by the Cesarean operation he lost the fourteenth and twentieth cases out of a total of thirty; and under twenty-three symphyseotomies he lost two children, but no women. We know of no fairer comparative test than this, as the same operator made both trials. We have had forty-four symphyseotomies in the United States, with a loss of five women and eleven children, five of the latter having been already dead before the operation. Compare this with our last forty-four Cesarean sections, and we find: women lost, twelve; and children lost, twelve. Mortality of women under symphyseotomy eleven and four-elevenths per cent, and under the Cesarean section twenty-seven and three elevenths per cent, ore more than double. A great deal has been said about the dis abilities produced by symphyseotomy, but we have found little of any form here. As the children delivered in our country under this operation have averaged eight pounds, we propose to limit the conjugata vera to two and three quarters inches. The Italian subosseous method we believe to be the best form of operation. In primipara the Neopolitan operators secure safety to the soft parts by letting the woman in many cases deliver herself. At one time three out of four women were left to nature after the section, but now delivery by the forceps is much more common. With proper care there should seldom be any strain upon the pelvis or injury to the vagina or bladder. Women have in a number of instances been operated upon twice, and one subject in Philadelphia has been delivered of living children, once by the Cesarean operation and twice by symphyseotomy. She would not consent to any sterilizing method being made use of. The last twenty eight symphyseotomies in the United States proved fatal to but two women, or seven and a half per cent. It will be a long time before the Cesarean operation can accomplish this in either England or America. When we can average fifteen per cent we may feel encouraged. Single operators like Professor Cameron may save ninety per cent, but in general practice we do not expect so low a death-rate as one in ten.

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NOTES AND ITEMS

Medical Director Albert L. Gihon, the senior officer of the Naval Surgeons' Corps, was ordered as a delegate to represent the Navy Department at the meeting of the American Public Health Association at Montreal, September 24.

Microbe of Yellow Fever.—It is announced that the indefatigable Dr. Domingos Freire, of Rio Janeiro, has again discovered the yellow fever microbe, has produced a yellow fever antitoxin and is inoculating "with wonderful results." It is to be hoped that the announcement may prove correct; but those of us who recall that Dr. Freire was said to have done the same thing some fifteen years ago; that Sternberg, Woodward, Schmidt and other competent bacteriologists failed to corroborate the discovery, after prolonged and painstaking search; and that, with a much more promising field, the success of Haffkine's anti-cholera inoculation is still sub judice—will take the present claims with a little salt.

Longevity and Life Insurance.—At the yearly meeting of a life assurance association recently held in England (*Modern Medicine*), several startling facts were incidentally brought to light in a discussion which occurred. Of these facts the most important are the following:

1. There is a marked increase of kidney disease.
2. The expectation of life in males over twenty appears to be diminishing, the death rate from diseases of the urinary organs tending steadily to an increase.
3. There is a steady increase in the mortality among the class to which candidates for life insurance chiefly belong; viz., the so-called better classes.

These observations afford matter for serious consideration.

"Served Him Right."—Under this heading the editor of the *Charlotte Medical Journal* says that a prominent physician of Chattanooga was recently ex expelled from the medical society for publicly indorsing the Keeley cure. Now what would the editor of the *Journal* say for himself if he should be expelled from a medical society for carrying an advertisement of the Amick Chemical Company? If we were obliged to choose between the Amick Chemical Campany and the Keeley Cure, we would accept the latter without hesitation. The editor should have examined his own advertising columns more carefully before writing this editorial on "Served Him Right," because there is such a grand opportunity for this "prominent physician" to turn the tables on his accusers, and point to this ad. which is declared to have been "tested, indorsed and adopted by the medical profession of all schools as the

only successful treatment for pulmonary diseases."—*National Medical Review.*

Mississippi Valley Medical Association.—The twentieth annual meeting of the Mississippi Valley Medical Association will occur in Hot Springs, Ark., November 20, 21, 22 and 23, 1894.

The Association is now in a more prosperous condition than ever before, and no efforts will be spared to make the meeting at Hot Springs not only the largest, but the most interesting and profitable ever held. Indeed, its success is already assured, many valuable papers by most excellent authors having been promised.

Hot springs is an ideal place of meeting, and November in that charming health resort is the most delightful of the year.

Socially, the visit will be enjoyable in the extreme, as the physicians and citizens with their characteristic hospitality are united and enthusiastic in their endeavors to make the sojourn of their guests pleasant.

The railroad rates will be very low and will be announced later.

You are cordially invited to be present at this meet ing. FREDERICK C. WOODBURN, Secretary.

Medical Education in St. Louis.—Dr. Albert Abrams, of San Francisco, in a late letter to the *Occidental Medical Times*, says:

St. Louis is a city of medical schools and free dispensaries. I counted as many as fourteen medical schools in St. Louir, and this list does not include many schools not reckoned under the caption of colleges in the directory. There is even a school of osteopathy established by a bone setter. * * * Competition in medical education, thus engendered, is not exempt from the odium which accompanies the competition of trade. Even by a most charitable process of ratiocination, such medical colleges are naught else but mills, but unlike those of the gods, they grind quickly. I overheard the following conversation between two men in St. Louis. Said the one, "Hello, Bill! you ain't driving a car no more?" "No," said Bill, "it's too hard work; and, besides that, I'm going to become a doctor. It's a blamed sight easier to wear a plug hat and glasses than to drive a car. Doc. (referring to a professor in a regular school) said I'd get through all right if I paid the fees." This conversation I hope will not be accepted as an apt illustration of the status of medical education in St. Louis. —Atlanta *Medical and Surgical Journal.*

Microbes in Ice.—The French Government has recently undertaken an investigation of the extent to which microbes are to be found in common ice (*Modern Medicine*). M. Riche was employed to conduct the bacteriological study of ice, and discovered that specimens which, to the eye, are perfectly transparent, seeming to be wholly free from any sort of impurity, may contain as high as seven times the amount of organic matter which is considered tolerable for potable water. In one specimen of ice examined, each cubic centimeter (one-fourth dram) was found to contain 175,000 microbes. The organic matter contained in this ice was forty times that considered allowable for drinking water. At this season of the year, when ice is freely used as a means of cooling drinking water, this subject is one which should receive careful attention. Ice should never be employed from any source which is not known to be absolutely pure. In some cities, ice made from distilled water by artificial means is offered for sale, and must be considered preferable to natural ice, since the distillation of water is one of the best of all means for securing its absolute purity. As regards the use of ice in drinking water, our constant advice to patients is that it is never quite safe until after it has been thoroughly boiled.

Spinal Drainage for Tubercular Meningitis.—Stephen Paget reported in the *Lancet* that he performed a resection of the arches of the fourth and fifth cervical vertebræ, the dura mater bulged, without pulsation, and following a puncture, a jet flowed of about four or five ounces of fluid; incision was then made in the dura mater, and horse hair drainage established. Four days afterward the child died, and the necropsy showed that the veins of the dura mater were distended; in the middle cerebral fossa, there was about a teaspoonful of sero-purulent fluid, and in the posterior cerebral fossa about two teaspoonfuls of clear serum; the convolutions were flattened on the superior portion of both hemispheres, and the brain appeared to the touch more than normally resistant, the third and fourth ventricles were dilated, the lateral ventricles were full of fluid but very little dilated. At the base of the brain the pia mater was infiltrated with sero-purulent lymph and there were found miliary tubercles.

The operation gave relief for a single day, and the drainage had diminished neither the collection of liquid in the cerebral fossæ, nor the inflammatory swelling of the brain. The author is of opinion that perhaps a large opening of the cranium itself might have afforded relief. The *Lancet* contains the history of a case diagnosed as tubercular meningitis by Walter Ord and Waterhouse, which recovered after trephining and drainage of the subarachnoid space. Parkin, *Lancet*, cured a case of hydrocephalus by occipital trephining and horsehair drainage.

Jacksonville Meeting of the Tri-State Medical Society.—The third annual meeting of the Tri State Medical Society of Iowa, Illinois and Missouri was held at Jacksonville, Ill., October 2 and 3. The attendance was large and great interest was manifested. Papers were read by Drs. J. H. Etheridge, Bayard Holmes, Boerne Bettman, Robert H. Babcock, F. Henrotin and W. F. Hubbard, of Chicago; John Punton, Kansas City; James A. Close and Emory Lanphear, of St. Louis; W. B. LaForce, of Ottumwa, Iowa; E. O. Sisson and F. B. Dorsey, of Keokuk, Iowa; Frank P.

Norbury, Anne H. McFarland, Carl E. Black and L. A. Malone, of Jacksonville, Ill.; Alfred Meyer, of Kankakee, Ill.; W. M. Catto, of Decatur, Ill., and Charles W. Rook, of Quincy, Ill.

The election of officers resulted as follows:

President—Dr. James Moores Ball, of St. Louis.

Senior Vice-President—Dr. Bayard Holmes, of Chicago.

Junior Vice-President—Dr. L. A. Malone, of Jacksonville, Ill.

Treasurer—Dr. C. S. Chase, of Waterloo, Iowa.

Secretary—Dr. Frank P. Norbury, of Jacksonville, Ill.

St. Louis was selected as the next place of meeting. Time: the first Tuesday, Wednesday and Thursday of April, 1895.

Committee of Arrangements—The officers of the Tri-State Medical Society have appointed the following Committee of Arrangements for the next meeting of the Society: Drs. W. B. Outten, James A. Close, H. W. Loeb, A. J. Steele, Geo. W. Cale, J. H. McIntyre, C. H. Hughes and E. H. Gregory.

Dr. John A. Wyeth, of New York, has consented to give the address on Surgery.

Dr. Fred Byron Robinson, of Chicago, will give the address on Gynecology, and Dr. David Cerna, of Galveston, Texas, will speak on "Recent Advances in Therapeutics."

Other eminent men will deliver addresses on various subjects.

Already promises have been secured which lead the officers to announce that the St. Louis meeting of the Tri-State Medical Society will be one of the most important medical gatherings ever held in the West.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Action of Iodide of Potash.

BY PROF. L. TRASBOT.

More than ten years ago Prof. Trasbot, of Alfort, commenced the study of the action of iodide of potash in animals, and he has obtained most remarkable results from its use in the treatment of certain affections of the lungs, of the bronchi and of the heart.

He has determined it physiological to be: First, augmentation of the force and frequency of the pulse, tension of the arteries, slight acceleration of the respiration, and rapid engorging of the conjunctiva and respiratory mucous membrane; then, reduction of the number of pulsations with fullness of the pulse and softness of the arteries, slowing of respiration, salivation, abundant secretion of tears, and muco serous discharg from the nasal membranes.

But iodide of potash also exercises, like digitalis, with which it has some physiological properties in common, an antithermic action, decidedly marked. This action, which is manifested as soon as the vaso-dilatation commences, lowers the temperature almost 1° in animals in health. Further, if the medication is continued for several days, it determines an emaciation—a notable loss in weight in the animal.

"These complex effects," says Mr. Trasbot, "inspired me with the idea of having recourse to this agent for combatting pulmonary congestion, pneumonia, bronchitis, attacks of heaves and chronic affections of the heart, especially in the horse. The results which I have obtained under diverse circumstances are most remarkable, and prove that the iodide of potash, without constituting, be it understood, a specific, can render the greatest service in the treatment of these diverse diseases.

"Frequently I have had occasion to administer it in pulmonary congestion to second the effects of bleeding and of revulsives, sometimes with digitalis, but also alone in some cases, and it has always appeared to me to exercise a powerful action. In several hours after its administration in small doses, 12 to 16 grammes (℥iij to iv) in the day the pulse is seen to slow and become more full, the respirations diminish in number and become more ample and all menace of asphyxia disappears.

"It is not less useful in the treatment of acute pneumonia. I had given it first on account of its action on the lymphatic glands, with the object of reducing as much as possible the swelling of those of the bronchi, the pressure of which on the left recurrent laryngeal nerve is the cause of persistent roaring so common after pneumonia and bronchitis, and so harmful to the usefulness of the horse and, consequently, to his value. I can say here that, from this special point of view. iodide of potash is absolutely precious. A very large number of animals to which I have given it have recovered without being roarers. For me, as I have showed in the memoir which I published on distemper, there is no longer a doubt of its preventive influence in this trouble. But I have also quickly recognized its really curative action in pneumonia.

"Therefore, for a long time, I have never missed combining iodide of potash in the treatment of pneumonia; not to the exclusion of the other classical remedies (bleeding at first in certain cases, revulsives, digitalis and antimony) but as an adjuvant of great utility.

"It has an equally remarkable efficiency in the treat-

ment of bronchitis. Frequently I have employed it alone in treating this affection. In a very short time it lowers the fever and provokes a moist bronchial secretion, which rapidly brings on a resolution of the disease. I ought, however, to state that I generally combine it with Kermes mineral."

It has always, over the antimonials and especially over tartar emetic which, even in small doses, often irritate the intestines, the considerable advantage of producing no evil effects in this way, but on the contrary it excites the appetite.

Its action is still more powerful in combatting rapid attacks of heaves; whether these attacks are due to emphysema alone, or to this and a chronic bronchitis combined, which is the most common condition; the two alterations often co existing, it gives astounding results. As early as 1865, Plantin, veterinarian at Marseilles, in the *Clinique Veterinaire* of Leblanc, recommended the iodide of potash in the heaves and chronic bronchitis, as being a great deal more efficacious than arsenic.

Finally, it gives very advantageous results in nearly all the chronic affections of the heart, diseases for a long time unknown and yet extremely frequent in the horse, which is readily explained by the efforts of force which are required of this animal.

In all cases of chronic endocarditis it produces a notable amelioration in a few days. I have seen a large number of subjects rendered incapable of service, stopping during work, paying no attention to the whip, enfeebled and having lost their appetite, regain the appetite and the appearance of health in a few days. They are not cured radically, of course, but they seem to be so enough to be sold and resold, until the day they go to the butcher or the knacker.

There is one condition especially in which the iodide of potash produces astonishing effects, that is, the case of pulmonary edema complicating dilatation of the heart, a very common condition in the horse, whether it exists alone, or with pulmonary emphysema and mitral induration, which is also frequent. Several times I have seen accidents of this sort, which threatened a quick termination to the life of the animal, succumb rapidly to an iodized medication. I should add, however, that usually, in these circumstances, I combined it with digitalis in moderate doses. But to prove the action of the iodide of potash, I have also given it alone, and I have obtained, somewhat less promptly but to a complete degree, the resolution of the trouble.

In short, it appears to me to be a precious remedy in a number of morbid conditions.—*Jour. of Comp. Med. and Surg.*

Constriction of the Rectum.

The subject was an aged bay horse which I was called to see on January 18, 1893. I found him presenting the ordinary symptoms of constipation, constant stretching, anorexia, dullness and visible evidence of the passage of but little or no feces.

Treatment was recommended and given in the administration of a liberal dose of linseed oil, followed by mild doses of tincture of nux vomica. Clysters of warm water twice daily were ordered with the admonition to exercise care in introducing the nozzle of the syringe into the rectum.

I saw the patient on January 23, and was told that he had done better for a day or two after I had seen him, but was now straining worse than before, and according to the owner's statement, passed very small quantities of urine at frequent interval. Noticing this condition myself, he was put on diuretic treatment. The owner visited me in a day or two and informed me that no improvement was noticeable in the animal.

I visited him again on the 28th and found him weaker than before from having taken little nourishment, and constantly stretching and straining at ineffectual efforts to void feces.

Having determined to make a rectal examination, on introducing the hand into the rectum found it could be passed but about six inches from the anus. The obstruction consisted of a fibrous constriction occluding the rectum to such an extent that only two fingers could be passed through it and then but with much difficulty. The constriction was very firm, but the mucous membrane toward the anus was granular and bleeding easily from the manipulation. A fetid sanious discharge, small in amount, exuded from the anus which was swollen and its mucous membrane highly conjested. The animal was ordered to be destroyed. Was this condition the result of violence intintroducing the syringe, or was it a pathological candition *per se?*

The necessity of an early examination of the rectum where there is the least indication for it is obvious.—Reported to the Maryland Veterinary Medical Association by W. H. Martenet, D.V.S., Philadelphia, Pa., in *Amer. Vet. Rev.*

Observations on Traumatic or Surgical Fever in the Horse.

The following remarks are arrived at from the temperature charts of twenty-three cases in the hospital of the Labere Veterinary College of which notes were taken at the time. These cases were all country-bred ponies purchased for the purpose of the students performing the operation of castration on. The patients were all aged, and the operation was performed on all in the same manner, viz., under chloroform and by torsion. Being under the same conditions as management, etc., the results are perhaps more uniform than perhaps they would have been if the observation had been taken on animals in which operations of various degrees of severity had been performed and perhaps with or without anesthetics.

Highest rise of thermometer 104.20° F.

Number of cases in which the temperature reached between 104 and 105° F., 1; between 103 and 104°, 10; between 102 and 103°, 9; between 101 and 102°, 3.

Number of cases in which the highest rise of the thermometer was in the first day, 6; second day, 11; third day, 1; fourth day, 4; seventh day, 1.

Quickest return to normal temperature, *i. e.*, to between 100 and 101° F., 24 hours.

Longest period of return to normal temperature, *i. e*, to between 100 and 101° F., 264 hours.

From these notes it would appear that there is a difference in the time in which the highest temperature is arrived at in the horse and mare, as in my observations the highest point was reached in eleven cases out of the twenty-three in the first two days; whereas in "Holme's Surgery," page 18, a small temperature chart in traumatic fever is given in which the temperature is at its height on the evening of the third day.—J. A. Nunn, F.R.C.V.S., D S.V., in *Veterinary Journal.*

FORMULÆ

Tetanus Neonatorum.

℞ Tartar. natronat., - - - - - - - - ℥ss.
Aq. foenicul.,
Syrup rhei aromatic., - - - - - - aa fℨj.
M.
Sig. Teaspoonful every hour.

Infantile Eczema.

℞ Sennine, - - - - - - - - - - ℥j.
Zinc. oxydat., pulv.,
Bismuth. subnitrat., - - - - - - aa ℥ij.
Vaseline, - - - - - - - - - - ℥j.
M. f. ungt.
Sig. Apply night and morning.

Fistulæ.

℞ Tinct. iodi, - - - - - - - - - ℥j.
Sig. Inject once a day.

Convulsions in Teething.

℞ Chloral hydrat., - - - - - - - gr.xvj.
Potass. bromid.,
Ammon. brom., - - - - - - aa ℥ss.
Aq. destill.,
Syrup. simpl., - - - - - - - aa fℨj.
M.
Sig. Teaspoonful every three hours.

℞ Neurosine,
Syrup simpl., - - - - - - - aa fℨj.
M.
Sig. Tablespoonful every four hours.

Periostitis.

℞ Hydrarg. biniodide, - - - - - - gr.x.
Potass. iodidi, - - - - - - - - ℥j.
Ext. belladonnæ, - - - - - - - ℈j.
Ungt. Cerci, - - - - - - - - - ℥ij.
M. f. ungt.
Sig. Apply externally.

Diabetes Mellitus.

℞ Sodii salicylat., - - - - - - - - ℥j.
Salol, - - - - - - - - - - gr.xij.
Sacch. alb., - - - - - - - - - ℈j.
M. f. pulv. Divide in dos. No. x.
Sig. One poweer three times a day.

Traumatic Delirium.

℞ Neurosine, - - - - - - - - - fℨij.
Sig. Teaspoonful as necessary.

Venereal Condylomata.

℞ Bismuth. subnitrat.,
Hydrarg. chlor. mite., - - - - - aa ℥ij.
M. f. pulv.
Sig. Dust on the parts daily.

Bronchorrhea.

℞ Eucalyptol, - - - - - - - - gtt.viij.
Syrup. Hypophosph. Com. (McArthur), - fℨj.
M.
Sig. Teaspoonful every two hours.

Rudy's Pile Suppository

is guaranteed to cure Piles and Constipation, or money refunded. Fifty cents per box. Send two stamps for Circular and Free Sample to MARTIN RUDY, Registered Pharmacist, Lancaster, Pa. No Postals answered. For sale by all first-class druggists everywhere. Meyer Bro's Drug Co., Wholesale Agents, St. Louis, Mo.

DR. W. SCOTT MARSHALL'S Convertible Saddle-Bags can be converted into a regular hand satchel on a moment's notice. He manufactures a full line of saddle-bags, gynecological and cabinet bags.

N. S. CROCKETT, M.D., of Christiansburg, Ky., writes as follows to the Searle & Hereth Co., Chicago, Ill.: "The sample bottle of Tritica was prescribed for a case of cystitis and the results were highly satisfactory. I regard it as a very efficient remedy for the class of diseases for which it is recommended."

"IT PAYS TO PRESCRIBE THE BEST" is a truism adopted as a motto by the Codliver Glycerine Co., and a trial of Codliver Glycerine in practice will convince you that the preparation is up to the motto.

THE "Geneso Road Cart" is the doctor's favorite cart. It is entirely free from horse motion which makes it ride as easy as a buggy. D. F. Sargent & Son, of Geneso, Ill., have sold over 1,000 of them to physicians. They can be had with or without top.

THE GERMAN medical press of New York City pays a valuable tribute to the firm of Griffith & Co., New York, manufacturers of the Compound Mixture of Guaiac, Stillingia, etc., the noted remedy for acute and chronic rheumatism. Many physicians have given up endless cases of chronic rheumatism and as a last resort have found this preparation the long-looked for remedy. The above firm will no doubt be glad to send samples on application to their laboratory, corner Sixty-Seventh Street and Third Avenue. As a last resort, this remedy has proven in many cases a specific in rheumatism.

T. R. HORNBLOWER. PH., M.D., of Jersey City, N. J., writes as follows to Messrs. Warner & Co.: "Allow me to say that your preparation known as 'Ingluvin' is a reliable remedy in irritability of the stomach, especially in infants suffering with Cholera Infantum, or in nausea attending Dysentery. I may say it is a specific compared to the defunct preparation."

T. J. JONES, M.D., of Carr's Station, Iowa, writes: "Enclosed please find $2.00 for two ounces of Salo-Sedatus. I used what you sent me and am more than pleased with it. It acted like a charm in a case of typhoid fever, relieving all pain and controlling the pulse and temperature."

Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

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ORIGINAL ARTICLES

Diseases of the Ovaries.

BY WM. CATTO, M D., DECATUR, ILL.

Read at the meeting of the Tri-State Medical Society, held in Jacksonville, Ill., October 2 and 3, 1894.

It is my purpose to touch upon only two or three of the diseased conditions of the ovaries most commonly met with in practice, and a glance at the anatomical construction of the organs will more readily enable us to understand why these conditions are so easily produced.

The ovaries are two small bodies about the size and shape of an almond, situated one on each side of the uterus, about an inch distant from that body and inclining slightly backwards; their position varies with certain movements and with distension or displacement of adjacent organs. They are connected with the uterus by the ovarian ligament; they lie behind the posterior fold of the broad ligament, and are attached to it.

The ovaries are supplied with blood from the ovarian artery, a branch of the abdominal aorta. The venous blood passes into the ovarian plexus which forms a network in the ovary and is emptied into the inferior vena cava on the right and the renal vein on the left side. These veins forming a network, have associated with them muscular trabeculæ, which when contracted prevent the passage of the blood from the ovaries to the large venous trunks and constitute a condition of ovarian erection.

This anatomical arrangement is largely responsible for the disease called ovarian hyperemia, a condition of chronic engorgement of the venous plexus with inability to properly unload the surcharged vessels; a state of affairs which, if too long continued, is likely to result in destructive changes.

The lymphatics of the ovary are united into six or eight trunks and discharge into the middle and superior lumbar lymphatic ganglia; the ovarian lymphatics communicate directly with those of the uterus, thus explaining the readiness with which ovarian disease is set up in many septic conditions of the uterus.

The nerves supplying the ovaries are derived from the sympathetic and are distributed to these organs through a large number of branches.

Of all the organs in the female economy none are so readily affected by alterations in or impressions on the lymphatic nervous system; and in turn the ovaries stand first in producing by their abnormalities the most severe and complicated derangements of that system.

The presence or absence of the ovaries determines largely the type of the individual both physically and mentally. Their presence is essential to the existence of the sexual system and to reproduction.

In women in whom the ovaries are congenitally absent or undeveloped, the brain and nervous system are upon a lower plane than the average.

The finer emotions found in the woman with normal ovaries are wanting or perverted.

Many insane single women are found upon examination to have imperfectly developed ovaries.

The above holds good also to a degree in women from whom the ovaries have been surgically removed. It has been shown by repeated observations that many of these last lose the finer sensibilities of refined womanhood in greater or less degree, and that this change is not more noticeable is due, in part at least, to the result of impression, the character and education having been formed and acquired during that period of life when the ovarian functions were most active. This is further proven by the fact that these degenerative changes become more noticeable the longer the time that has elapsed since the removal of the ovaries, and greater in women in whom they have been removed when very young.

The ovaries perform their functions at the expense of their substance, and thus die a physiological death long before the woman of whom they form an integral part, and in whom they have been so important a factor in determining the physical and mental peculiarities, has reached her expectancy.

Not only may these organs be absent or undeveloped, but sometimes a third or supernumerary ovary is present. The normal ovaries may be most readily palpated in a patient of spare build with lax abdominal walls. The patient should lie on the back with the limbs drawn up and the thighs rotated outwards.

The examiner may rest the palm of the left hand upon the patient's abdomen and by passing two fingers of the right into the posterior cul-de-sac, then bringing them

upward and forward to meet the opposing external hand, the ovary will usually be caught between the fingers of the two hands; this procedure may be facilitated when necessary by drawing down the uterus with a vulsellum.

In fat women the ovaries are often very difficult of palpation.

Often when other means fail the rectal touch will assist one in finding the position and outlining the ovary.

A not uncommon abnormal condition is one usually termed hyperemia or congestion of the ovaries. It usually affects both ovaries and is generally associated with a greater or less degree of congestion of all the pelvic organs. It is a functional disturbance, but if too long continued it leads to chronic degeneration of the ovaries. This affection occurs most frequently among unmarried women and those of a highly emotional temperament.

It is characterized by a sense of pain and weight in the pelvis, weakness and irritability. The pain is not acute but comes on gradually. Menstruation becomes deranged, menorrhagia frequently exists, and the patient is often relieved by menstruation, to gradually become worse after its cessation. Sometimes irritability of the bladder is present; we find tenderness on deep pressure of a dull "ovarian" character which is sometimes relieved by steady continuous pressure. These patients are frequently hysterical in a marked degree.

Aside from endometritis and constipation the causes leading to ovarian hyperemia are psychical; improper associations and such habits of life as tend to stimulate the sexual appetite without its gratification, are the most common causes of the trouble, and a knowledge of the existence of such causes would indicate the line of treatment to be pursued.

This should consist in the withdrawal of the patient from the associations the direction of her mind in more healthy channels, disassociation of the sexes, abundant physical exercise, and efforts to impart an improved moral tone, will sometimes be all that is required.

Medicinally, strychnia, ergot and bromide of potassium give the best results. Cold bathing and blisters over the ovarian regions aid in bringing about a cure.

Acute inflammation of the ovaries is the result of a specific cause, the most frequent one being gonorrhea. Puerperal sepsis sometimes produces it, and rarely it may have a traumatic origin, *e. g.*, when a prolapsed ovary is caught behind an ill-feeling pessary and the irritation thereby produced goes on to inflammation. The course of this disease is rapid, terminating either in death or partial resolution, with too often a damaged state of the ovaries.

In ovaritis from puerperal sepsis, often but one of the organs is affected; the extremity of the Fallopian tube, the adjacent peritoneum and all the local tissues may be involved in the inflammation; prolapsus of the ovary may take place, extensive adhesions may exist, abscesses may form and may open into the rectum or peritoneum, or they may remain encysted.

The nervous symptoms in this affection are very prominent and hysteria is usually well marked. There may be a chill at the beginning; the pain is usually very acute, often circumscribed, and radiating from one point.

If the left ovary is involved there may be intense pain during defecation.

Sometimes the ovary can be felt through the abdominal walls, especially when fixed high up by an adhesion. It can often be more easily located through the rectum.

This disease may be differentiated from pelvic cellulitis by mobility of the uterus, except in cases in which the two conditions co-exist.

The treatment consists of absolute rest, warm applications, blisters in the acute stage with free use of opiates to relieve pain and procure rest; nourishment of a liquid character in abundance should be used. After the subsidence of the acute stage, the external free use of iodine, the use of constant vaginal irrigation kept up unremittingly for days if necessary with gentle saline aperients, often aids in bringing about resolution.

Chronic inflammation of the ovaries often follows prolonged hyperemia; it may be caused by imperfect menstruation in acute flexions of the uterus when the flow is scanty and painful. Syphilis and tuberculosis are said to predispose to it.

The constitutional symptoms as well as the gross appearance of the ovaries resemble, in some measure, those present during the menopause, when the ovaries undergo senile degeneration.

The nutritive and nervous systems are depressed, reflex disturbances of digestion are present, with capricious appetite, nausea, gastralgia, constipation, flatulence and often derangement of the brain functions.

Locally there is pain and derangement of menstruation, often menorrhagia obtains, but there is sometimes amenorrhea. Suffering is intensified by the presence of salpingitis. The symptoms are aggravated by protracted standing or walking.

There are perhaps few diseases requiring more patient care in their treatment than chronic ovaritis. Where the ovaries alone are severely affected the disease is often self-limiting; it progresses to destruction or atrophy of the organs and ordinarily can be treated in such a manner as secures comfort to the patient.

The treatment consists in securing physiological rest to the organs, avoidance of sexual excitement and tonics to improve the general health.

Saline laxatives given freely, in this as in many other chronic inflammations of the pelvic organs, have a most beneficial effect. Hot sitz baths, frequently repeated light counter irritation over the lower abdomen may be used with good results.

Internally the free use of sedatives like the bromides act well and should be used until the severe symptoms subside to be resumed again at any recurrence of trouble, which may be expected at each menstrual period for some time.

The bromides may be given in from thirty to sixty grain doses according to the effect produced.

Sulphonal should be used at night to procure sleep, and opiates should be avoided for obvious reasons.

Local treatment should be directed towards the relief of the producing cause if it can be found, such as a severe flexion, or any aggravating accompaniment, such as endometritis, misplacement or hyperphasia of the uterus.

Correction of misplacements with the use of the glycerine and iodine tampon are often of great service.

The internal remedy which I have found to be of perhaps more value than all others is iodide of potassium, freely administered. It can be pushed to such an extent that menstruation becomes arrested temporarily at least, as many of you have doubtless observed while using this remedy in the treatment of certain stages of syphilis or enlargement of glandular structures in women

A knowledge of this fact is helpful in the treatment of this disease. I often give as much as twelve to one hundred and sixty grains daily, combined with the bromides, and find that it will bring about premature subsidence of menstruation, at least temporarily, and thereby procure in a measure physiological rest to the engorged ovaries.

It is in this disease of all others the gynecologist or surgeon is most tempted to resort to an early use of the knife for the relief of his patient, and perhaps also because his own stock of patience becomes too soon exhausted.

That the operation of removal of the ovaries in some cases of chronic ovaritis is a justifiable one there can be no doubt, but unfortunately those cases to which it is applicable are not always selected and the result is often unsatisfactory to the patient and her friends if not to the operator.

That the disease frequently ends in spontaneous recovery by resolution and resumption of function or by atrophy with cessation of function there is also no doubt, and this is a fact in the majority of cases.

Then, too, the recognition of the operation in this class of cases opens the way to the performance of that modern abomination in surgery, so-called "normal ovariotomy" in which the would-be surgeon, too impatient or too incompetent to use all reasonable scientific means to overcome derangement of function in the ovaries, or perhaps with an uncommendable desire to make a record, immediately proceeds whenever permitted to eviscerate every woman who goes to him complaining of a pain in the pelvis or in fact of injuries anywhere from her knees to the crown of her head, an operation too that in reality requires less surgical skill than to properly adjust and repair a badly lacerated perineum so as to restore its functions.

I have not infrequently spoiled a prospective operation by dilating the os uteri or by restoring to its normal position an acutely anteflexed uterus and thereby curing a dysmenorrhea which had been pronounced due to diseased ovaries (whatever that might mean), and their removal advised.

It is a remarkable fact also that many women are ready and anxious for the removal of the ovaries upon the slightest hint from their physician that such a procedure might be necessary, while there are others again who desire it as a matter of expediency.

To illustrate: In June of this year a woman whom I had never seen before came to my office and quietly informed me that she wished to make arrangements to have her ovaries removed.

Upon questioning her I found that she complained of no special symptoms that called for such a proceeding, and upon further examination found she had borne a child about three weeks before and did not want to have another.

She still has her ovaries.

And right here I will remark that it is a great deal easier and safer to remove perfectly normal ovaries than those that are or have been severely diseased. In the latter case the ovaries alone are seldom affected; not infrequently troublesome adhesions are found with various other complications, which render the operation not quite so simple as it might at first appear; and, I will further venture to remark that if our embryo surgeons who are so ambitious to make a record as laparotomists would confine their operations to diseased organs alone, they would soon be obliged to desist from force of discouraging circumstances, and the published lists of successful laparotomies would be lessened by at least fifty per cent.

Oliver Wendell Holmes replies to the charge, that in all his stories the villains are drawn from the clerical and legal professions, that the medical profession is so full of good people that even its own story writers have to go outside of it to find their villains.—*The Woman's Medical Journal.*

Heart Complications of Gonorrhea.—Rare examples of endo and pericarditis following gonorrhea have been recorded from time to time during the last half century, generally acute and even fatal in their course. Probably a lesser degree of involvement of the heart will be proved to be much more common, now that attention has been directed to the subject. The affection is most likely to arise during a chronic gonorrhea, the chief symptoms being palpitation, peri-cardial pain, acceleration of the pulse-rate, and a slight peri cardial rub. Gonorrheal rheumatism is generally present, but may be absent. It may be noted that the pathology of the joint affections in gonorrheal rheumatism still remains obscure, the presence of the gonococcus in the synovial fluid being claimed by some observers and denied by others. Some observers hold that the urethral or vaginal mucous membranes, damaged by the gonococcus, may serve to transmit other disease germs, such as pyemia and tuberculosis, and there is a good deal of evidence to support this view.—New York *State Medical Reporter.*

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Dissemination of Medical Knowledge.

A significant feature of the present era is the discussion and publication of articles on medical subjects in the daily press. There must be a demand for this kind of reading matter on the part of the newspaper readers, else the editors of the papers who are supposed to be experts in feeling the pulse of public taste would not go to the trouble and expense of publishing matter of this kind. Our age has been called the "electrical," but it might also be styled the medical age. There seems to be a general craving for information on topics directly or indirectly related to medicine. The introduction of the study of physiology in the public schools is symptomatic of this crave.

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Several years ago a physician of this city, Dr. Hazard, wrote very creditable articles on popular medical topics for a daily paper, which, it seems, were greatly appreciated by the reading public. For ethical or other reasons Dr. Hazard never signed his name to these articles. Perhaps he was a little oversensitive and feared that such a step might lead people to believe that he was trying to advertise himself. The medical contributors to the daily press of the present day seem to be free from such old-fashioned scruples. They boldly and openly sign their names to the products of their intellects. Perhaps these gentlemen can afford to depart from the old beaten track of professional etiquette.

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The most prolific of these writers is Dr. Isaac Love, who considers it his duty to impart to the newspaper reading public the results of his wide practical experience. The articles are well written, but smack some what of the encyclopedia. Perhaps the city editor or one of his staff might do just as well to select passages or pages from the Encyclopedia Britannica. But it is better that a licensed physician should do so. It looks better and impresses the public with its "freshness."

A Medical College in Trouble.

After a period of comparative tranquillity in medical college circles, somewhat of a ripple of excitement has been produced by a suit brought by one of the professors of the "Woman's Medical College" against a number of his colleagues for mismanagement. Probably it is simply a case of blighted ambition and no harm will come of it. We trust that the even tenor of the ways of the indicted professors will not be disturbed. Some of them are used to hot water anyway.

Is Medical Co-Education a Failure?

Two antagonistic views have of late been expressed by medical men and women with regard to medical co-education and both may be right from their own standpoints and custom of reasoning. As a rule one would suppose that when a young man or young lady who have had a classical education, have chosen a calling with aims as high as those of the medical profession, the ardor of becoming as proficient as possible in their future occupation would, for at least the few years of student life, overshadow every other thought and particularly that of taking upon themselves the solemn obligations of matrimony.

This does not appear to be the case with some of the fair students of Johns Hopkins University, where, at the end of the first session, one third of the class are engaged to be married. On general principles, we think, this is to be welcomed rather than to be deplored; but whether it is a sign of failure of medical co-education or not we are unable to decide. Dr. Wm. Osler, who no doubt had ample opportunity to investigate the matter more thoroughly, being a teacher at Johns Hopkins University, expressed the following opinion upon this subject at the recent annual banquet of the Harvard Medical Alumni Association:

"I was warmly in favor of it, particularly when the ladies came forward and offered half a million dollars. I come here to-day with tears in my eyes and sorrow at

my heart, to tell you that co-education has proved an absolute failure from one standpoint. When I tell you that 33.3 per cent of the ladies, students, admitted to the Johns Hopkins Hospital at the end of one short session are to be married, then I tell you that co-education is a failure. If 33.3 per cent fall victims at the end of one session, what will happen at the end of the fourth!"

Another view of the situation we clip from the *Woman's Medical Journal:*

"Surely this is a little difficult. We were told that the great objection to women entering professional life was that they would not care to marry, hence the desire to keep them out. Now conditions are reversed and the objection is that they do. Really it is not easy to please. A recent address at a meeting gave the advice that all young physicians should marry; that they would secure confidence and an entree to homes otherwise inaccessible. If marriage is good for one, it must be good for another.

"Our experience is that the majority of women in the profession are married and being married, still maintain their profession. Marriage is not the end of life, is but a condition which admits of the usual daily rounds of duty. When a young man marries, he does not close up his business, why should a woman? Because a woman marries is no reason for concluding she is a failure. It is not just, neither is it fair. Women are human the same as men, *this setting them on a pedestal and crowning them with a lot of cast off virtues, beautiful but impractical, is not in vogue to day* (the italics are ours). The women have paid their way well at Johns Hopkins and it strikes this journal that if co education is a failure, the cause is not in the women."

Not knowing the particulars we cannot decide, as already stated, whether the fact that so large a percentage of lady students is a sign of failure of medical co-education; still, we most emphatically believe that, as a rule, the co-education of the sexes in certain branches of medicine is impractical and should be discouraged, no matter whether the cause of the failure of co educa tion is to be attributed to the male or female sex.

Rickets in the Negro Race.

At the sixth annual meeting of the American Pediatric Society Dr. Geo. N. Acker, of Washington, D. C., read a paper in which, after referring to the many peculiarities of the negro race, he said that since the war the conditions affecting the negro had entirely changed (N. Y. *Med. Jour.*). Formerly the slaves had been well fed and clad, and they had lived in wholesome houses and had been well cared for when sick; now they have to work and shift for themselves, and being often in temperate and lazy, they were accustomed to live with a total disregard of all sanitary rules. This had necessarily exerted a very deleterious effect upon their offspring, and as a result the race was undergoing serious and rapid decay. Predisposition to rickets in the colored race would seem to be an acquired one, for the native Africans, it was said, seldom showed any evidence of this disease. In the negro the bone lesions of rickets were often late in appearing, and might very easily be overlooked. Heredity was a most important etiological factor. The parents were, as a rule, tubercular and syphilitic. His experience tended to prove that it was common for children with a tubercular or syphilitic diabetes to have rickets severely. As the negro infants were usually brought up in ill-ventilated houses, their assimilative functions became impaired. If breast-fed, most of the mothers being in service, their infants were not nursed regularly, and were often given improper food in addition. Besides this, the negro infant was weaned at an early age. Between the sixth and eighteenth months of life pulmonary disorders were very common, and this was the time when rickets were most frequently observed. Disease of the respiratory organs lowered vitality, and in this way it might be considered an etiological factor in the production of rickets. The pathological changes found in rickets were about the same in negroes as in other races. The wrist-joints were apt to be more than usually prominent in rickety negroes; the swelling and "beading" of the ribs were more early and constant; the thoracic grooving was always very well marked. The head of the rickety negro child was usually rectangular, but this was not always the case. In some cases the fontanelles were closed early and the skull firmly ossified. Although he had carefully searched for craniotabes, he had led to think that it was quite rare among negroes. As negroes had less sensibility than the whites, they were not, as a rule, so subject to nervous affections in connection with rickets. Rickety infants among the negroes were very prone to bronchial catarrh and broncho-pneumonia, and tuberculosis was often a grave and very fatal complication. When such children were placed under more favorable hygienic surroundings the disease usually yielded quite readily to treatment.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Oct. 6, 1894, the Vice President, HEINE MARKS, M.D., in the chair.

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DR. H. W. LOEB reported a case of "Persistent Headache, Due to a Nasal Obstruction Formed by Bony Projections from the Septum, which Impinged on the Middle Turbinated Bone." His object in reporting this case was "to throw down the gauntlet to certain practi-

tioners who imagine that headaches are generally due to disease in the genito urinary system—especially of the female—that they have some relationship with the ovaries." The case illustrates the necessity of a nasal examination, especially before the more heroic treatment of removal of the ovaries is instituted.

The patient, a woman aged 25, had a severe accident ten years ago, in which the nose was very severely injured, and this, in all probability, is the origin of her trouble. She complained of persistent headache during the last three years, which was subject to exacerbations as a result of cold, work or any excitement, but which had no relation to menstruation, except that the periods had been absent during the last eight months. She had consulted a gynecologist who, without making an examination (therefore no scientific gynecologist), had advised removal of the ovaries. An oculist fitted glasses without giving patient any relief from her headache.

An examination of the nose revealed a large bony projection from the septum on either side, which impinged on the middle turbinated bone and produced an engorged condition of the mucous membrane. An irritation was kept up just at a point where all the reflex phenomena start. Cocaine applications immediately relieved the headache by causing a contraction of the mucous membrane, thus enlarging the passage and relieving the existing pressure. This beneficial effect continued under the use of a camphor and menthol spray. Cauterization done a few days later again augmented the headache, owing to the increased swelling and consequent pressure produced.

Mr. Brown, of London, in a letter to the speaker shortly after the publication of the latter's paper on "Nasal Headaches," took issue on this latter point. He claims that headaches are relieved by cauterization, and has been in the habit of so teaching his class.

Dr. Broome.—When do the turbinated bones ossify?

Dr. Loeb.—At different periods. The lower turbinated bones ossify first and the others later.

Dr. Broome.—Do you think the ossification of the turbinated bones had anything to do with the trouble?

Dr. Loeb.—Nothing at all; they ossified long before.

Dr. Pollak.—Do you expect to remove them by the cautery.

Dr. Loeb.—By the saw.

Dr. Broome.—Are you not afraid of necrosis as a result of bone denudation?

Dr. Loeb.—Not at all.

Dr. F. D. Mooney had never heard of the removal of ovaries for headache. He doubted whether any competent gynecologist had recommended the removal of the ovaries in the case reported. He had removed only one healthy ovary, and that was after numerous consultations with other physicians.

We are constantly hearing certain members of the profession complaining about the "spaying" of women done by gynecologists, and expressing fears that there will finally be a dearth of child-bearing females. Speaker had seen most of the gynecologists of this city operate, and in not a single instance was there a healthy ovary removed. If the complaining members of the profession will tell us how to cure these cases by any other than operative measures, none will be as willing as the gynecologist to stop removing ovaries. The doctor agrees to furnish any number of cases to be treated by any method that is humane, and to stop surgical procedures if a single case could be cured by any other means. Meanwhile we are curing these cases and are making healthy women of invalids.

Dr. Loeb agreed with Dr. Mooney, that scientific gynecologists are not in the habit of treating these cases in the manner indicated, but it is a fact that the first thing many physicians think of when a woman has a headache, is a diseased condition of the uterus or the adnexa.

In the case reported, removal of the ovaries had been recommended by a "gynecologist." A headache is more liable to have its origin in a disturbance in or near the same region than at a distance of two and a half feet from it. This emphasizes the necessity of a careful examination of the nasal cavities in all cases. He had seen cases in which the pain became very much aggravated just before or after the menstrual period—which certainly indicated a uterine origin—which were relieved by appropriate treatment.

Dr. Mooney asked Dr. Loeb, if he considered headache due to nasal trouble and that of pelvic origin identical.

Dr. Loeb did not consider them so at all, although he is not sufficiently familiar with headaches due to pelvic trouble to differentiate. Nasal headaches are usually frontal in character.

Dr. Williams asked Dr. Loeb, if cocaine applications to the nose would relieve headaches of different origin.

Dr. Loeb had seen cases where nasal trouble was accompanied by headache which was due to some other cause. In these instances cocaine did not relieve the symptom. In one case, due to defective vision, the correction by properly adjusted glasses was followed by relief.

Dr. Charles Barck.—I should like to say a few words in regard to Dr. Loeb's case. At the International Medical Congress at Berlin, Prof. Virchow made a famous speech in which he gave credit to Morgagni, the foremost anatomist of the eighteenth century, for theories and discoveries which were the first upon which we can base the entire change of opinion in regard to the nature of diseases. From the time that he wrote his famous book on the seat of disease, the entire view has changed. As is well known, before that time the "Humoral pathology" prevailed. It was the idea that all diseases had their origin in the different fluids of the body, especially the blood, lymph, etc. He pointed out, after anatomical and pathological researches of a lifetime, that we find in most diseases a certain seat; that one organ is diseased and that from there other organs may be affected more or less. This idea has since been recognized more or less, and is recognized

in Virchow's famous book on "Cellular Pathology."

Now, we have heard a great deal about the effect of nervous transmission. I must confess I do not believe in this theory of nervous transmission. It seems to me that a cause, much nearer and much closer in its relationship, has been overlooked of late, and that is the relationship by means of the circulatory system—the arteries and especially the veins.

I did not hear the beginning of the doctor's remarks, so I do not know whether he mentioned anything about the point that really arises. What is the cause of headaches, especially in severe and long continued headaches which have their origin in the nasal cavities? The relationship between these is most probably the venous system. We know that there are a large number of veins carrying the blood back from the cavity of the brain directly to the membranes of the nose, and there is no doubt that the large number of headache cases are caused by an interference with the return current of the blood, due to disorders of the nasal cavities.

I should like to mention another connection which is frequently overlooked. That is the connection between the different affections of the eye—the inner organs and tissues of the eye—and the nose. Zien, of Dantzig, has pointed out this relationship, and in a large number of cases there was interference with the circulation of the eye caused directly by disease of the nasal cavities. Just as in the case of headaches, the true cause of the trouble is apt to be overlooked. There are a good many such cases called glyoma—a disease which, in spite of the large volumes which have been written upon it, is not yet fully understood. A great many cases supposed to be glyoma from the symptoms were cured by proper treatment of the nasal cavity.

I fully concur with Dr. Loeb, that in many cases of headaches there is a nasal disturbance at the bottom of it.

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Dr. A. D. Williams reported a case of "Cholesteatoma of the Ear." The patient is 55 years of age, and was seen for the first time about seven years ago. At that time a large mass of desquamative material was removed from the ear and the cavity left in an apparently clean condition. The patient was informed at the time of the possibility of a return of the trouble, and presented himself a second time last week. The external ear was filled with the same material. After considerable difficulty it was removed, which left a large cavity in the posterior wall of the meatus, apparently leading into the mastoid cells. Small bleeding points were left in the denuded surface, which was cauterized with pure carbolic acid. To-day there appeared to be no recurrence of the material, but a second cauterization was made with the hope of stopping its development completely.

Speaker had seen a similar case several years ago in an old man. There was a large accumulation of material, and it was removed after great difficulty. This left the bone of the external meatus completely denuded.

The affection is quite rare and its nature is but very little understood, as is also its treatment. It is attended with considerable risk to the life of the patient; therefore speaker asked for information as to the best method of treatment.

Dr. Charles Barck said that these cases are more frequent in Europe than in this country, the reason for which is as yet unknown. They are all of a dangerous nature, mainly on account of the tendency to perforation of the temporal portion of the mastoid and a subsequent invasion of the lateral sinus, or an affection of the cerebral meninges.

The treatment, as far as known, consists in removing all the desquamative masses as soon as they form, keeping the cavity as clean as possible in order to prevent any destruction of the bone. If the bone becomes involved the only method is to make a large opening into the mastoid behind the ear, so as to establish a permanent opening which will permit of an inspection from time to time.

Meeting of American Academy of Railway Surgeons.

The First Meeting of the American Academy of Railway Surgeons will be held in the Parlors of the Grand Pacific Hotel, Chicago, Ill., on Friday and Saturday, Nov. 9 and 10, 1894.

Motto.

"The Higher the Order of Railway Surgery, the greater the protection to the employe, the passenger, and the company."

Program.

First Session—Friday, 9 a.m. (Standard Time).

Executive Session.

(Only charter members of the Academy admitted.)

1. Call to Order, by Chairman Committee on Permanent Organization.
2. Election of Temporary Chairman.
3. Election of Temporary Secretary.
4. Roll call of Charter Members.
5. Appointment of Committee on Constitution and By-Laws.
6. Address—The Objects and Aims of the American Academy of Railway Surgery, by C. K. Cole, M.D., Chief Surg. Mont. Cent. R'y, Helena, Mont.
7. Address—Reasons for the Organization of the Academy, by W. J. Galbraith, A.M., M.D., Chief Surg. Union Pacific R'y, Omaha, Neb.
8. A Symposium on Permanent Organization, by R. Harvey Reed, M.D., Consulting Surg. B. & O. R'y, Columbus, Ohio.
9. Opening of the Discussion on Nos. 5, 6 and 7, by

W. H. Elliott, M.D., Chief Surg. Cent. R'y of Georgia, Savannah, Ga.

10. Miscellaneous Business.

11. Adjournment.

SECOND SESSION—FRIDAY, 2 P.M. (Standard Time.)

OPEN SESSION.

(Nothing but scientific business transacted, and open to all interested.)

1. Injuries of the Tendons in Railway Accident.

a. History and Symptoms, by J. B. Murphy, M.D., Chief Surg. Wis. Cent. R'y, Chicago, Ill.

Discussion Opened, by W. A. Adams, M.D., Chief Surg. D. T. & Ft. W., Fort Worth, Tex.

b. Diagnosis and Prognosis, by W. D. Middleton, M.D., Chief Surg. C. R. I. & P. R'y, Davenport, Io.

Discussion Opened, by Brise L. Riordan, M.D., Surg. G. T. R'y, Toronto, Can.

c. Treatment, by Geo. W. Hogeboom, M.D., Chief Surg. A. T. & S. F. R'y, Topeka, Kan.

Discussion Opened, by Solon Marks, M.D., Chief Surg. C. M. & St. P. R'y, Milwaukee, Wis.

2. Traumatic Neuritis.

a. History, Symptoms and Differential Diagnosis, by A. P. Grinnell, M.D., Chief Surg. Cent. Vt. R'y, Burlington, Vt.

Discussion Opened, by Chas. H. Merz, M.D., Surg. L. E. & W. R'y, Sandusky, Ohio.

b. Prognosis and Treatment, by E. A. McGannon, M.D., Surg. G. T. R'y, Brockville, Ont., Can.

Discussion Opened, by J. H. Ford, M.D., Chief Surg. C. C. C. & St. L. R'y, Wabash, Ind.

3. Treatment of Traumatic Aneurism, by G. S. Worley, M.D., Chief Surg. J. St. A. & I. R. R'y, St. Augustime, Fla.

Discussion Opened, by N. Y. Leet, M.D., Chief Surg. D. L. & W. R'y, Scranton, Pa.

Adjournment.

THIRD SESSION—FRIDAY, 8 P.M. (Standard Time.)

EXECUTIVE SESSION.

(Only charter members of the Academy admitted.)

1. Report of Committee on Constitution and By-Laws.

2. Appointment of Committee on Nominations.

3. Miscellaneous Business.

Adjournment.

FOURTH SESSION—SATURDAY, 9 A.M. (Standard Time.)

OPEN SESSION.

(Nothing but scientific business transacted, and open to all interested.)

1. Should a Railway Surgeon be Required to Procure a History as to the Cause of an Accident over the Signature of the Injury.

a. Reasons Favoring such Report, by S. L. McCurdy, A.M., M.D., Surg. P. C. C. & St. L. R'y, Pittsburgh, Pa.

Discussion Opened, by R. W. Bruce Smith, M.D., Surg. G. T. R'y, Seaforth Can.

b. Reasons Opposing such Report, by Geo. Chaffee, M.D., Surg. L. I. R'y, Brooklyn, N. Y.

Discussion Opened, by J. M. Dinnen, M.D., Chief Surg. N. Y. C. & St. L. R'y, Fort Wayne, Ind.

2. The Best Method for Approximately Determining the Amount of Damage Sustained by a Traumatism from a Monetary Standpoint, by R. S. Harnden, M.D., Surg. N. Y., L. E. & W. R'y, Waverly, N. Y.

Discussion Opened, by John E. Owens, M.D., Chief Surg. C. & N. W. R'y, Chicago, Ill.

3. The Best Method for Determining the Value of Life when Death has been Caused by Accidental Means, by M. Cavana, M.D., Surg. N. Y., O & W. R'y, Oneida, N. Y.

Discussion Opened, by A. D. Bevan, M.D., Chief Surg. Ia. Cent. R'y, Chicago, Ill.

4. The Environments of Railway Surgery, by B. Merrill Ricketts, M.D., Chief Surg. C. P. & V. R'y, Cincinnati, Ohio.

Discussion Opened, by C. B. Kibler, M.D., Surg. N. Y., L. E. & W. R'y, Corry, Pa.

5. The Use of Horse Hair in Surgery, by C. M. Daniels, M.D. Chief Surg. W. N. Y. & P. R'y, Buffalo, N. Y.

Discussion Opened, by A. C. Scott, M.D., Chief Surg. G. C. & S. F. R'y, Temple, Tex.

Adjournment.

FIFTH SESSION—SATURDAY, 2 P.M. (Standard Time.)

OPEN SESSION.

(Nothing but scientific business transacted, and open to all interested.)

1. Not a Case of "Railway Spine," by Webb J. Kelly, M.D., Surg. C. C. C. & St. L. R'y, Galion, Ohio.

Discussion Opened, by W. B. Rogers, M.D., Chief Surg. K. C., M. & B. R'y, Memphis, Tenn.

2. Comparative Value of Plaster of Paris and Silicate of Soda as a Dressing for Fractures, by Milton Jay, M.D., Chief Surg. C. & E. I. R'y, Chicago, Ill.

Discussion Opened, by C. B. Parker, M.D., Surg. L. S. & M. S. R'y, Cleveland, Ohio.

3. The Treatment of Burns of the Conjunctiva, by D. C. Bryant, M.D., Oculist U. P. R'y, Omaha, Neb.

Discussion Opened, by Wm. Thompson, M.D., Oculist Penna. R'y, Philadelphia, Pa; by J. A. White, M.D., Consulting Oculist S. R'y Co. Richmond, Va.

4. Traumatism of Joints, by R. H. Cowan, M.D., Surg. N. & W. R'y, Radford, Va.

Discussion Opened, by C. B. Powell, M.D., Surg. C. B. & Q. R'y, Albia, Ia.

5. Collodion in Solutions of the Continuity of the Soft Parts, by N. A. Drake, M.D., Surg. C. R. I. & P. R'y, Kansas City, Mo.

Discussion Opened, by Chas. B. Fry, M.D., Surg. Big Four R'y, Mattoon, Ill.

Adjournment.

SIXTH SESSION—SATURDAY, 8 P.M. (Standard Time.)

EXECUTIVE SESSION.

(Only charter members of the Academy admitted.)

1. Report of Committee on Nominations.
2. Election of Officers.
3. Selection of Next Place of Meeting.
4. Miscellaneous Business.

Adjournment, to the Banquet Hall.

Banquet.

Adjournment.

TRANSPORTATION

The Managers of the various railroads have very cordially agreed to furnish the necessary transportation to enable the members of the Academy to attend the coming meeting. Those who need transportation will apply for the same at once through their proper officers.

ABSTRACTS

MEDICINE.

Icterus from Emotions.—Professor Pontain, in a clinical lecture delivered at the Hospital de la Charite, Paris, France, says: We have at this moment in the hospital, two patients affected with icterus. The one is a rheumatic male patient with a catarrhal icterus; therefore we thought that anti-rheumatic treatment might be of service in his case, and after being for several days under the salicylate of soda, he has become convalescent. The other is a young woman who is not rheumatic, and who attributes her jaundice to a violent fit of anger. Her case may be classed among those cases of icterus which follow emotions.

In this variety one will meet with cases where the jaundice followed immediately after the emotion upon which it depends; in others, as in our patients, the affection is only noticed a few hours or one or two days after. Is the mechanism the same in both cases? Often emotional icterus is accompanied by causes capable in themselves of producing the disease, so that for a long time it was thought to be a mere coincidence or a ridiculous tale.

Still there are cases where the influence of the causative emotion is not to be doubted. I have reported to you several cases of instantaneous icterus. You recall Bouillaud's case: A man was about to shave himself. Suddenly some one comes and informs him of a loss which he has suffered; on taking up his razor he perceives in the mirror that he has become jaundiced. I have already mentioned the case of a young girl who went into a cellar and was unexpectedly bitten by a rat; very much frightened she ran out and was met by a person who noticed that she was icteric. Another case was that of a man who was seized by the Federals and was about to be shot; his wife, who was present, remarked that he immediately became jaundiced when the troops arrived from Versailles and saved him. It is told of a duellist, who, upon the duelling ground, in a twinkling of an eye became so yellow that the weapon fell from the hand of his adversary. Again, a man received a box on the ear; he precipitated himself furiously upon his opponent; he was at once arrested, when it was noticed that he was completely yellow. Still another case was that of a young priest who was present while a mad dog was to be shot; at the moment that he was struck by the bullet, the animal gave a bound into the air, broke his chain and expired at the feet of the priest. The latter, terribly frightened, fell to the earth and arose completely icteric. These are all authentic cases.

Often the icterus does not follow at once. In 1882, I observed at the Necker Hospital a young girl, who had had a violent fit of anger; several hours after her eyes began to grow yellorw and she became progressively icteric. In one case, a woman of thirty one years had an attack of icterus eight hours after an accident. A physician of Montpelier has recorded the case of the interne of a hospital who was frightened by a comrade who played the part of a ghost. The interne was terrifically frightened by the apparition; the next morning he was jaundiced. The case of a young girl near Bordeaux has been observed, who, impressed with the reproaches of her father, a few hours later became icteric. Dr. Noblet has reported the case of a woman, who, while assisting to unload a wagon loaded with potatoes, all at once saw the man standing in front of her buried under an avalanche of potatoes; she experienced a vivid emotion; the next morning jaundice appeared. Finally, Hardy has called attention to the case of a young hack-driver who allowed his horse to run away; the following morning he was icteric.

An emotion is frequently found to be the cause of icterus, but the importance which it merits has not been attached to it. The nature of the emotion is variable; most generally it is terror. Sometimes, as in our patient, it is a fit of anger. Let us see by what mechanism the icterus is produced.

Instantaneous icterus is easily explained by the modifications of pressure between the capillaries and the small bile ducts. Normally the pressure in the bile ducts is greater than in the blood-vessels; in animals even without icterus this may be observed. But the biliary pressure is variable, for experiments have not yet given us exact knowledge on this subject. At all events, if the pressure in the ducts be increased the bile rapidly passes into the blood.

You will observe that if one tap the abdomen of a frog with the handle of a scalped, the blood-vessels will become enormously distended; all the blood of the periphery seems to rush to the abdominal cavity. The same result may be produced by excitement of the cortical nerve centres, as Frank has demonstrated. Thus there is a lowering of the blood pressure in the capillaries of the liver, while at the same time there is an increase in that of the bile ducts and their capillary ramifications. Not every violent emotion is followed by icterus, but as I have stated, the pressure in these ducts is quite variable, now high, now low, and now negative. It is easily seen that if the variations in the blood pressure are to occur when that of the bile is high, icterus immediately follows. Yet these modifications of pressure are by no means all, for, as Laborde has shown, the biliary passages are contractile; any excitation will produce a slow retraction of their walls, with consequent elevation of pressure. Lepine, after introduction of a tube and a manometer into a bile duct, has observed the pressure to rise in a few minutes under the influence of excitement. If every emotion does not give rise to these effects it is because of a reflex influence. Now, reflexes are variable. They may act upon one part or another, they may be diffused, but they especially affect sensitive organs. Instantaneous jaundice has nothing mysterious about it, and is easily explainable.

The same cannot be said when the symptom follows a more or less long time after the emotion. It cannot be explained by spasm, for that would not last so long; again, vascular paralysis which allows the vessels to become distendeded only produces a momentary lowering of pressure. Here it rapidly rises from repletion of the vessels. Other causes must be sought for. Now, if one study attentively the cases where the icterus appeared later, one will observe that between the casual emotion and the consecutive icterus the patient presented symptoms of gastric disturbance, loss of appetite, diarrhea or constipation, headache, pain in the limbs and malaise.

This condition brings about an icteric state from infection of biliary passages, from consecutive tumefaction of the mucous membrane of the ducts, even sometimes by production of a mucous plug at the point of entrance of the common bile duct into the duodenum.

But, how is it that an emotion may give rise to a gastric disturbance? This is a fixed fact and you know that prologed chagrin often causes a loss of appetite; that fear may induce a diarrhea, etc. An explanation of these facts is a very delicate task. The nervous system affects the movements of the digestive tract, at one time it may accelerate, at another render slow; thus it regulates the circulation and even the secretions of the intestines. Now, the gastric disturbance which produces the icterus is an infectious process, a fact which Chauffard has emphasized. It often appears as an epidemic, local epidemics, domiciliary epidemics. At other times the season exerts a manifest influence. What relation can there exist between an emotion and an infection? Here we return to the astonishment which physicians experience at the beginning of their bacteriological experiments. The relation actually exists and is to be explained. The intestinal tract is filled with injurious substances and micro-organisms ready to invade the system; but, during the normal state, the intestinal glands, the bile ducts and the bile itself are aseptic. This condition of things is subject to modification. The glands and ducts may become infected. It seems that the more abundantly a gland secretes, the less liable it is to microbic invasion. Now, the secretions are regulated by the nervous system and this same system may prepare the way for infection. I have, unfortunately, no case in point to cite you, yet this hypothesis appears to me quite rational. As to the biliary passages, they are kept normal by the profuse flow of bile, for the quantity of this fluid which traverses them in twenty-four hours is not less than the quantity of urine which passes through the kidneys at the same time. The bile itself is antiseptic. Rendu has recently given us a curious example. A patient presented grave hepatic symptoms which led one to think an abscess of the liver present. At the necropsy multiple abscesses were found in the liver, but they were aseptic. The biliary passages were filled with streptococci, but they were inoffensive. Both the inoculation and the cultures remained sterile. Hence the bile may render microbes sterile. Yet this antiseptic property is not always the same. You thus can see how an emotion may be followed by no effect or the very contrary. By transitory and mechanical modifications in one case; by an infectious process in another. By symptoms limited to the stomach and intestine in one series of cases, while in others they extend to the biliary passages and are followed by icterus.

Again, you see how the prognosis is not always the same. Instantaneous icterus of emotional origin, ordinarily, lasts for five or six days. I know of no case of primary emotional icterus which was followed by severe results. But it is not the same in catarrhal icterus, for a secondary emotional icterus acts quite like the catarrhal variety. In certain cases the two influences are combined and the primary icterus continues as a catarrhal form; this latter may become serious. Examination of the urine in these cases is of considerable importance, for it indicates when the bile ceases to pass over into the blood. In our patient, the color of the stools indicates that the bile is being poured into the intestine, but the presence of biliary pigments in the urine shows that a certain portion is actually taken up by the blood, and the patient is not yet convalescent. That forms one of the important elements in prognosis. But the state of the kidneys should be especially watched for albumen, and a large quantity of casts are met with in a great number of these cases. A diseased condition of the kidneys is always, in these affections, a source of danger from insufficient elimination of the waste products of the organism. Emotional icterus only becomes serious in those patients whose kidneys are affected be-

forehand. Catarrhal icterus, as a rule, does not last long enough to cause secondary alterations in the kidneys. Treatment will vary as the icterus is primary, or secondary to gastro duodenal catarrh. Primary icterus will cure itself if the patient is in a tranquil state of mind. At the hospital, the mere fact of their entering and the consequent repose are sufficient treatment; in city practice one should be on the watch for exciting causes and to remove them. Emotional secondary icterus is treated by laxatives, especially castor oil, and exclusive milk diet. This form of diet diminishes considerably the number of microbes in the digestive tract. But in some patients the digestion is faulty and fatty foods are especially badly assimilated. Here an association of pancreatine with the other measures will render great service.—Translated from *L' Union Medicale* by F. H. Pritchard, M.D., in *Med. and Surg. Reporter*.

Quinsy and Acute Rheumatism.—All practical insight gained by the study of quinsy is important. Its relative frequency, and no less positive distress, are evident. The ordinary importance attached to the scrutiny of disease, becomes of peculiar interest in this disturbance, since the theory of Lennox Brown, that quinsy is often a local manifestation of the rheumatic condition. While, like many other morbid processes common to humanity, quinsy does not assail us with the vigor of a like disorder in colder climes, I believe its relative frequency to be but little lessened on this coast. We have, for a long time, been treating this disease with quaiac, with aconite, and with soda. The former had been used empirically. It was useful beyond doubt. It seldom aborted, but it surely relieved. Yet the connection between a systemic cause and a definite result, was not suggested until Brown offered the solution of rheumatism, as a cause, and guaiacum as a remedy. The field being open, a number of observers corroborate the relationship. It is found that of fifty quinsy subjects, thirty-five present the rheumatic habit. The treatment becomes salicylate of soda, and the results better. This view of the subject was advanced in '78. In '84 KcKenzie barely regards the theory. Yet Delevan in '88, and Bosworth in '92, give full support to the theory; and, here and there, evidence confirmatory has multiplied.

In following a rational, rather than an empirical mode, treatment becomes more decided and the grasp firmer. My results become more prompt, and confidence in the effect, from cause, strengthened. Yet a limited experience has many chances for error. Nor is the universality of blood cause to be seriously entertained. Doubtless I would but continue to glean from, and use for good the points thrown in my way, without further question, but for a case just noticed, which supports, I fancy, this teaching of recent observers that peri-tonsillitic abscess is an eruption of rheumatic disturbance.

A woman, forty years of age, with no history of previous rheumatism, nor trace of such diathesis, contracted a quinsy two years ago. It was a typical parenchymatous tonsillitis with a distinct exciting cause—exposure. Instead of pointing, however, internal, a week of suffering demanded relief; and obscure fluctuation led to an opening of the abscess by the Hilton-Roser method, at the margin of the mastoid muscle in the neck—complete relief following. Three months ago there developed a vulvo-vaginal abscess which was lanced with like relief. On June 25 another undoubted quinsy, with great palatial swelling, dysphagia, complete closure of the mouth, etc. This terminated in a week by spontaneous opening—internal. In view of the asthenic character of access—distinct chill and full pulse of arterial tension—this attack had been treated by the Ringer method, without apparent benefit. Comfort and rapid relief, with free discharge of pus, succeeded evacuation, however, but forty-eight hours later, the right elbow became painful, swollen and useless. And twenty-four hours later all of the large joints were involved in the same process; the subject helpless, with rapid pulse; pyrexia of three to four degrees. Mind clear; no headache, but marked depression mentally. Heart sounds distinct—no murmur. Urine scanty, depositing crystals of uric acid. The question as to pyemic or rheumatic origin for the joint involvement was decided in favor of the latter. Acuteness of arthritic symptoms; apparent absence of fluctuating temperature; freedom from general septic expression, led to the administration of sodium salicylate in large doses. Forty-eight hours found the joints relieved, and constitutional symptoms abated. A premature withdrawal of salicylic acid was followed by return of pain and temperature, to be again and permanently removed by renewal. Now, July 10, attention has ceased.

Similar examples of the immediate sequel of acute rheumatism to a phlegmonous tonsillitis have been recorded by Easby and Fitz-Maurice.

The attention given to the rheumatic tonsil in the past decade will doubtless result in a further sufficient accumulation of material to make clear the relationship between these morbid processes. Delevan, writing in '89, says: "The idea advanced by Lennox Brown, and accepted by a considerable number of respectable authorities, namely, that the rheumatic diathesis is accountable for many of the acute inflammatory diseases of the tonsil, can by no means be allowed to pass disregarded."—Geo. B. Richmond, M.D., in *Pacific Medical Journal*.

The Bicycle an Etiological Factor in Lesions of the Perineal Region.—Theodore Rousing (*Hosp. Tidende*) enumerates the various lesions in the perineal region observed by de Pezzer (*Ann. des Mal. des Org. Gen.-Urin.*) caused directly by bicycle riding and especially by the pressure of the saddle upon the perineum (*Pacific Med. Jour.*). Pressure of the saddle may cause affections of the skin, the anus, muscles, nerves and veins in both sexes; of the vulva in the woman, but more especially of the urethra in the male. Unfavorable conditions for bicycle riding are poorly

developed muscles, absence of fat, and great distance between the tuberosities, because in such subjects the sharply formed front part of the saddle wedges the soft parts in between the sides of the saddle and the tuber ischii.

The following lesions were observed:

1. Superficial—Hardness and rigidity of labia majora, with gnawing, pricking pains, frequent urination with redness, swelling, irritation and serous exudation from the vulva.

2. Venous—Rupture of varicose veins and severe hemorrhage from rubbing of saddle. External hemorrhoids. Prolonged erections from pressure on veins, preventing return flow of blood. Retention of urine, with tenderness in the perineal regions and prostate gland.

3. Nerves—Pressure on the nerves has produced prolonged anesthesia in the perineal region and of the sexual organs.

4. Urethral—Numerous cases of gonorrheal urethritis long subsided have returned with all their virulence after a bicycle ride. Periurethral abscess and urethral fistula necessitating urethrotomy have been caused by bicycle riding. Three cases of rupture of the urethra have been observed, two by jumping upon and one by the breaking down of the saddle.

A Case of Probable Hereditary Lead-Palsy.—Anker (*Berliner k. Wochanschrift; Am. Jour. Med. Sciences*) has reported the case of a girl, 8 years old, who for a year had presented progressive weakness, followed by palsy of both lower extremities. The father of the child had been a compositor for seventeen years, and had at various times suffered with lead-colic; syphilis was denied. The mother had had three abortions. At the age of 3 years the child had fallen and struck the back of its head; consciousness was lost for five minutes, and vomiting followed. From this time the intelligence was noticed to fail. The child presented a demented look; she could not give her name and age, and could not do simple things that she was told to do. The head was dolichocephalic, and the muscles of the face presented fibrillary twitching, particularly upon the left side. The appearance was anemic. The feet were in a position of equino-varus. There was some stiffness in the knee-joints, and the knee-jerks were exaggerated; patellar clonus could be elicited. The response of the Achilles tendon was preserved, but not exaggerated. Of the extensors of the right foot and the toes, only the tibialis anticus and the extensor hallucis longus were slightly active; while plantar flexion of the foot and toes was preserved. The toes of the left foot could only be slightly extended, but the tibialis anticus could be actively contracted; abduction of the foot was entirely wanting and plantar flexion was normal. The plantar reflexes could be elicited only to a degree permitted by active movement. The muscles in the distribution of the peroneal nerves presented partial reaction of degeneration. The mental condition of the child excluded a satisfactory study of sensibility, although simple touch and pin-point appeared to be perceived. The tendon reflexes were exaggerated in the upper extremities. The mobility of the arms was normal. Speech was somewhat nasal. The ocular movements were preserved, and the pupils reacted normally; ophthalmoscopic examination disclosed no lesion. The teeth were in good condition; the gums presented no blue line. There was evidence of weakness of the vesical sphincter. Spontaneous pain in the extremities had not been noted. In the course of the succeeding six months the palsy also invaded the upper extremities. The hands assumed the position characteristic of radial palsy, hanging in a flexed position; extension was impossible. The thumb was flexed and adducted; abduction and hyperextension were wanting. The triceps was intact; the supinator longus contracted in flexion of the forearm. Muscular irritability was preserved, although tardy, in the extensors of the hand. Reaction of degeneration was present in the extensor communis digitorum, extensor carpi ulnaris, extensor carpi radialis longior, extensor ossis metacarpi pollicis, extensor secundi internodii pollicis, and extensor primi internodii pollicis. The interossei were paretic; the first was paralyzed, and presented reaction of degeneration. The muscles of the thenar eminence presented a similar condition. The palsied muscles were greatly atrophied. The lower extremities now hung in a relaxed condition. The function of the tibialis anticus, as well as plantar flexion of the toes, was entirely lost. The knee-jerks and the response of the Achilles tendon were preserved. After the lapse of an additional four months the paralysis of the right hand had somewhat receded; extension of the proximal phalanges was normal; the hand could be extended at the wrist, and the forearm flexed at the elbow; abduction and adduction of the fingers were preserved. In the left upper extremity the radial distribution was free, although a typical claw-hand was present; the paralysis of the interossei was, however, not complete; the opponeus pollicis performed its functions normally. The peroneal palsy was unchanged; plantar flexion was preserved. The paralyzed muscles presented reaction of degeneration. Careful examination of the urine failed to disclose any abnormality. At first it was thought that there existed specific cerebrospinal disease, but subsequently the peculiar involvement of the muscles supplied by the radial nerves, and the escape of the triceps and the supinators, suggested a plumbic origin, and inquiry revealed the fact that the father had been a compositor for many years. Direct intoxication with lead, however, did not seem possible, as the man did no work at home; and the conclusion is reached that the case is probably one of an hereditary form of lead-palsy. The condition had to be diagnosticated from peripheral neuritis, poliomyelitis and amyotrophic lateral sclerosis.

Bulbar Palsy and Motor Aphasia in the Sequence of Influenza.—Stembo (*St. Petersburger*

Med. Wochen.; Am. Jour. Med. Sci.) reports two cases that aptly illustrate the multiformity of the complications of influenza, and particularly those involving the nervous system. In the one case speech became difficult, fluids taken into the mouth returned through the nostrils, saliva accumulated in the mouth, and there was dysphagia. Movements of the lips were interfered with, and the enunciation of the labials was imperfect. The tongue when protruded was tremulous, appeared small, and presented longitudinal furrows. The linguals were enunciated indistinctly. The uvula was deflected to the right. The constrictor of the pharynx was paretic, so that deglutition was difficult. The posterior crico-arytenoid muscle of the left side was paralyzed, and the corresponding vocal band assumed the median position. The voice was hoarse and nasal. The electric irritability of the muscles generally was normal; that of the affected muscles was diminished; in these also the muscular irritability was heightened.

The second case was observed in conjunction with Kohan, and occurred in a woman in the eighth month of pregnancy. Some time after an attack of influenza, weakness was noted in the right upper extremity, with inability to speak, although the patient heard and understood what was said to her. The face was distorted, the mouth being drawn to the left. The protruded tongue deviated to the right and the uvula to the left. The voice was hoarse, and on laryngological examination an ulcer was found in the inter-arytenoid space, together with paralysis of the left vocal band. Sensibility was obtunded on the right side of the face and in the right upper extremity, but elsewhere was normal. The tendon reflexes were somewhat increased, the cutaneous reflexes normal. The heart sounds were normal. The patient at first could not write nor repeat what was said to her, but understood written and printed language. By and by the power of speech gradually returned, and the motor symptoms likewise improved.

In the first case the bulbar lesion is presumed to have been due to an influence of the toxines engendered in the course of influenza, while in the second it is surmised that a hemorrhage took place into the lower portion of the ascending frontal convolution, while the laryngeal symptoms are ascribed to the local lesion.

Ferratin.—The distinquished French savant, Prof. Germain See, reported his views on the therapeutic value and place of Ferratin to the Academy of Medicine of Paris.

Prof. Germain See said that he had found occasion during his attendance at the Hotel Dieu to employ Ferratin and to study its effects on various clinical cases, which he took pleasure in reporting.

Ferratin seemed to have a direct significance in the nutrition of the tissues, and even after prolonged use it produced no derangement of the stomach or intestines. It had a pronounced curative effect. It acted mildly astringent, without causing hurtful excitement or constipation—disturbances commonly following the use of ordinary ferruginous preparations; but, as a remarkable fact, it caused a strong increase of appetite—always precarious and capricious in anemic patients—and also regulated the movements to a normal condition. Its administration was free from any unpleasant side or after effects.

Ferratin, 0.5 to 1.5 grammes per day in divided doses, was primarily a valuable food product; it excited appetite and thereby offered a powerful adjuvant in permitting the absorption of food, and it co ained a fixed proportion of iron, which was highly assimilable and thus replaced a vital insufficiency.

The administration of Ferratin, said Prof. Germain See, was indicated in:

Those suffering from anemia from hard work, though the patient have the appearance of good health.

Those, of both sexes, affected with chlorosis.

Those weakened by too rapid growth and puberty.

Those fatigued by study; and, in short, all in whom a diminution of red blood corpuscles had ensued, due no matter to what causes.

Prof. Germain See concluded his report by promising that he would keep the Academy informed as to his further studies of Ferratin, which he was conducting simultaneously at the Hotel Dieu, in his medical clinic and in his physiological laboratory.

SURGERY.

The Present Position of the Surgery of Hypertrophied Prostate.—In a paper on this subject by Dr. J. William White, read before the American Surgical Association, Buffalo, 1893, and published in *Annals of Surgery* of August, the author holds to the opinion that the prostate is a part of the sexual apparatus and not an accessory of the urinary organs, and that the changes which take place in the gland are not a part of a general condition peculiar to advancing years, nor does he admit that the primary change is in the bladder itself, but holds (and his reasoning appears sound) that the growth, or growths, which make up the enlargement in prostatic hypertrophy, are analogous to those fibromyomata so frequently found in the uterus, and that the changes in the bladder are secondary, and occasioned by (1) mechanical obstruction, (2) by circulatory obstruction incident to pressure on the prostatic veins, into which the vesical veins empty, and (3) to septic infection. He thinks the pyogenic microbes are generally introduced by the use of dirty instruments, or failure to cleanse the anterior urethra before the instrument is used, and that if the bladder was entirely healthy, would not cause cystitis, but in its congested condition microbic invasion is but slightly resisted.

He discusses at length both subjective and objective symptoms. He thinks purely expectant treatment proper only in cases where the enlargement has caused no symptoms, chiefly in those cases where the prostatic

condition has been recognized during examinations for other purposes.

As regards medical treatment, ergot is the only drug which offers any prospect of usefulness, and it is not demonstrated that this has any decided effect, and certainly has no specific influence. While the medical treatment of the hypertrophy itself is unsatisfactory, some of its complications, such as cystitis, are much benefited by the use of boracic acid, salol, the bromides, etc.

As palliative treatment, he recommends the systematic introduction of the full sized steel sound, thoroughly sterilized, in the early stages, and after there is three to four ounces of residual urine, catheterism should be systematically employed once daily for three ounces, twice for six ounces, and then once more for any additional two ounces.

In those patients with but moderate obstruction, with high grade of compensatory hypertrophy of bladder, with little residual urine and that sterile, operation is not to be thought of. The time may come when operation in such cases should be advised, but has not yet arrived. But as soon as the approaching "breakdown" in catheter life begins to manifest itself, instrumentation is difficult and painful, the congestion merges into true cystitis, etc., the operation should be done at once, or valuable time will be lost to both surgeon and patient.

The operative measures discussed are:

1. Overstretching of the prostatic urethra. This is not likely to be followed by favorable results when the median lobe or the vesicle neck is chiefly involved, but in lateral hypertrophy, when the canal is simply narrowed, or made tortuous, it might be of use.

2. Perineal prostatotomy is the operation of choice in all those cases in which, with marked diminution of expulsive force and cystitis, there are evidences of wide spread degenerative changes or distinct renal disease, and toxemia and general feebleness are present; or even in absence of renal or constitutional disease, if the bladder is rigid and contracted, holding but a few ounces of urine, it is the operation to be preferred, as a rule.

3. Perineal prostatectomy is indicated if the perineal distance permits the growth to be reached by the finger, and is of small size and limited to the medium line posteriorly, or pedunculated and acting like a ball valve at the neck of the bladder.

4. Suprapubic prostatectomy is the operation to be preferred in all those cases in which, palliative treatment having failed, there are unmistakable indications that the local conditions are growing worse, the general health remaining as yet unaffected. It permits in every case a thorough manual and visual exploration of the bladder, and there seems no reason to question the propriety in every case of suprapubic prostatectomy, of examining the prostatic urethra with the finger, and of performing perineal urethrotomy if a hard mass or rigid ring is discovered. It is important, that we may reduce the risk from hemorrhage, shock and sepsis, that we should know how little may be done with a reasonable prospect of resulting benefit. As to the technique of method, the adopton of Trendelenburg's position, the omission of the rectal bag, the arrest of hemorrhage by internal pad held in place by Keye's method, and the use of ecraseur introduced through urethra, are the modifications most worthy of mention.

In conclusion, the author said that some time ago the idea occurred to him that if the analogy between uterine fibro-mayomata and prostatic overgrowth was a real one, castration might have the same effect upon the latter that oophorectomy does on the former, and cause an atrophy, resulting in the practical removal of the obstruction. At that time he had not read of the alleged atrophy in eunuchs, geldings, etc. While unaware that allusion had been made to the subject in medical literature, he instituted a series of experiments, using dogs in the work, partly for convenience and partly because the prostate sometimes undergoes changes similar to those found in the human prostate.

The results place beyond peradventure the influence of castration (in the dog) upon the condition of the prostate, and show that the operation is followed invariably and promptly by atrophy, first of the glandular and then of the muscular element of the prostate. The average weight of the prostate in dogs was found to be 15.3 grams. The dogs were castrated and killed at different intervals, varying from seventeen to seventy-two days, and in every case there was found a marked diminution in the size of the prostate, the gland varying in weight from 1.5 to 5.6 grams.

The author did not wish to be understood as advocating the measures which his studies might indicate. With much hesitation he had decided to follow out publicly a line of thought which had occupied his mind at odd times and submit it to the criticism of his associates. He has no definite convictions as yet, and is simply seeking enough light upon the subject to convince him either that it is worthy of pursuing further or that it offers no possibility of practical usefulness.—*Atlanta Clinic.*

The Danger Signal of the Chloroformist.—The opinion of most of the expert anesthetists in contradiction to the suggestions of the Hyderabad Chloroform Commission, is that the respiration alone is an imperfect guide to the condition of a patient under chloroform, and the pupil, pulse, and the patient as a whole should be watched.

It certainly seems probable that if we watch the respiration alone, we are in danger of pushing the chloroform to the point of respiratory narcosis; and since this will come on gradually, we may not recognize the condition till the patient is in a state of extreme danger.

It may be true that the patient can always be brought round by artificial respiration; this, involving at it does, the stopping of the operation in many cases, is a most inconvenient and alarming complication, and should never be allowed to occur. Any interference with the

respiratory center by chloroform, however slight, is a sign of dangerous overdosing. Again, if respiration alone be watched, how is the beginner to distinguish between shallow and irregular respiration of reflex inhibition, which so often precedes vomiting, and the insidious onset of respiratory narcosis? If chloroform be pushed to the point of affecting the pulse, if this be possible, a dangerous overdose has been given. The heart, too, is liable to reflex inhibitions, and often becomes irregular and depressed during vomiting, and also during the violent irritation of the sympathetic system met with in abdominal operations; in either case, quite independently of the anesthetic. Therefore as an indication of the degree of the chloioform narcosis, the pulse is unreliable.

We require some indication which shall tell us when the cerebrum is completely narcotized, and shall also warn us when we are in danger of affecting the respiratory center. This indication is found in the pupil. The third nerve center which governs it is the first of the automatic centers of which we have cognizance; it is not a vital center, like the respiratory, and its narcosis is not in itself followed by dangerous complications. The pupil, which is the visible sign of the condition of this center, is the danger signal for which we are looking. The pupil has a regular cycle as the patient goes under. It is first dilated and active, it then becomes contracted, and lastly it becomes dilated and fixed. The first state is a sign of imperfect narcosis, the second of complete and safe narcosis, and the third of danger of imminent narcosis of the respiratory center. The cause of this cycle is as follows: Imperfect narcosis, going under or coming round, the pupil is dilated and active; dilated because impulses, mental, sensory or sympathetic, affect the half-narcotized cerebrum, and cause reflex inhibition of the third nerve center; and active because the center itself has not been reached by the anesthetic. A similar dilatation is produced under ordinary conditions by fright, pain or a blow on the abdomen. As narcosis deepens, the pupil contracts because the cerebrum is now completely under, all cerebral reflexes are barred, and the third nerve center is consequently unimpeded in its action. A similar state is seen in deep sleep. If the narcosis be pushed further, the pupil will slowly dilate and become less and less active to light till it is widely dilated and fixed, because the narcosis has now reached the center itself, and has gradually overtaken it; consequently nervous control has ceased and the pupil has dilated; at the same time the light reflex has been abolished. A similar condition of pupil is seen in general cerebral compression. This fixed dilatation indicates great danger, for respiratory narcosis is imminent; indeed, under no circumstances should narcosis be pushed to the extent of full dilatation of the pupil. Thus the golden mean of safety is indicated by a contracted pupil, any material dilatation means, "Look-out." The patient is either coming round and developing reflexes, or going too far toward respiratory narcosis.

It is easy to distinguish between commencing reflex dilatation and early narcosis dilatation. In the first, the pupil is active and other reflexes—shallow respiration, vomiting, or movements will follow; in the second, the patient is stertorous, tho pupil sluggish, and the eyeballs fixed. In the first, the indication is for more chloroform, in the second for the suspension of the drug till contraction recurs in consequence of the recovery of the third nerve center. If the pupil be read in this way all interference with respiration or the heart can be avoided.

For all ordinary operations, a contracted pupil should be maintained, but in abdominal surgery it is sometimes necessary to combat the violent sympathetic irritation by pushing the chloroform till there is slight narcosis dilatation of the pupil. Beyond this, it is useless as well as dangerous to go. Any further abdominal rigidity is due either to inflammatory fibrosis or to the development of abnormal reflex links between the sympathetic and spinal nerves in highly neurotic subjects. In either case the condition is beyond the control of anesthesia.

The time during which the closest attention should be paid to the respiration is while a patient is going under. At this time he is liable, intentionally or from too strong a vapor to hold his breath. The respiratory center is thus debilitated from lack of oxygen; then when the necessity for breathing overcomes all other impulses, a grasping inspiration is taken, the center is flooded with chloroform, and cannot resist it, the pupil dilates, and death supervenes. Whether or not the heart is affected is undetermined, the point being to avoid the occurrence in any case. This can be done by encouraging the patient to breathe regularly, and if he holds his breath, by seeing that only a small dose of chloroform is accessible.

In children it is better to use a Junker's inhaler, so that whether they scream or hold their breath, only a limited amount of vapor can be taken in; an overdose is thus avoided. In these cases it is my practice to give chloroform till contraction occurs with slight stertor, and then to suspend the administration until some slight reflex is seen, then to give a little more, and so on. I do not think that the pupil is quite so reliable as in the adult, as sudden overdosing with fixed dilatation seems sometimes to occur. Possibly the pupil reflex is imperfectly developod; this I am sure is the case with the corneal reflex, which is quite unreliable as a sign of narcosis in children. Slight stertor is the reliable indication.—Arthur H. Ward, M.D., in *The Lancet.*

OBSTETRICS AND GYNECOLOGY.

The Introduction of Symphyseotomy into America.—Referring to the article which appeared in the last number of the Brooklyn *Medical Journal* from the pen of Dr. R. P. Harris, it is of interest to note that the revival of symphyseotomy outside

of Italy began with Pinard, of Paris. It is a singular fact that for a period of twenty five years the good work that was being done by Morisani and his followers in Naples received little or no recognition in other countries. Except in Italy, no symphyseotomy was performed during that time, and the operation was looked upon as obsolete. In our own country, Harris was almost the only obstetrical writer who recognized its utility. He sturdily defended its cause at a time when it was almost universally ignored by other authorities. His name will always hold a conspicuous place in the history of symphyseotomy and its introduction into America. Had American obstetricians given more attention to the facts which Harris repeatedly set before them, our country might have been first to profit by the lesson of the Neopolitan successes. Not until Spinelli, a disciple of Morisani, had visited Paris and demonstrated the operation upon the cadaver in the presence of Pinard, did symphyseotomy begin to gain general recognition outside of Italy. Pinard was immediately impressed with the value of the operation, and in February, 1892, he performed the first public section that had been done beyond the confines of Italy in more than a quarter of a century. In a little over a year he had operated in twenty cases. Freund, of Strasbourg, and Leopold, of Dresden, soon followed him, and symphyseotomy quickly spread over both hemispheres.

Unless, therefore, Coggin's claim, and others antedating Pinard's publication in the early part of 1892, are to be established we will be compelled to admit that symphyseotomy came to this country, as it did to Germany and England, by way of Paris, and Pinard will be entitled to a due share of the credit. But better evidence of these early operations will be required than the Coggin claim is founded on.

It is scarcely to be expected that the pioneer in progress in any special department of knowledge should be looked for on the frontier. He is usually to be found among men of specialized experience in the great medical centers. All the operations since that which has been claimed for Coggin have been done by experts. To such men we would naturally look for the first step in any new departure in the medical art.

Dr. Coggin's story bears on its face its own refutation. His report, as it appears in the *American Journal of Obstetrics* for January, 1894, makes the weight of the child 11.35 pounds, and its length $16^{3}/_{8}$ inches. In other words, the child weighed four pounds more and measured two or three inches less than the average. The bi-parietal diameter is put at 5.75 inches. That is the measure of the bi-parietal in a large sized, adult male head. The fronto- mental diameter, however, was 3.55 inches, the usual value in the new-born child. Yet his figures purport to be exact to a small fraction. It will be noticed, by the way, that some of the doctor's fractions in weights and measures are unfamiliar ones. His appliances for determining pounds and inches must be something different from those in general use.

Dr. Harris says that he bases his acceptance of these early symphyseotomies on sworn affidavits. Is this the way scientific truths are established? Would a reputable physican in any community resort to such means to secure the recognition by his colleagues of his title to professional honor? Would he not rather, if anything more than his word were needed, appeal to his fellow practitioners. If he could not trust to this, would his allegations be worthy of credence under oath?

Finally, it will be difficult to set aside the findings of the official investigation published by the Medical Society of Etowah County, Ala., where Dr. Coggin practiced at the time of the alleged operation. After careful judicial injuiry into all the facts by a committe formally appointed for the purpose, their report was adopted by the Society and published in the *Medical and Surgical Age* of June last. Copies of the journal with full text of the report can no doubt be had on application to the office of publication, Anniston, Ala. The report was re-published in the New York *Journal of Gynecology and Obstetrics* for August last. A few extracts are herewith submitted:

"Dr. Coggin first announced that his pubic section was done in Freedman, Etowah County, Ala. The committee on diligent search were unable to find any such town in the State. Dr. Coggin afterward stated that the place where Mrs. Carey Hughes, the alleged patient, lived was Rocky Ford on Wills Creek. No person of that name had ever been heard of in that vicinity."

"The doctor claimed to have been assisted in the operation by Dr. Slaughter. Dr. C. J. Slaughter, of Aurora, Ala., is the only Slaughter who has ever been known in that entire region, and he denies that he assisted in an operation of the kind, or has heard of one in that section."

"Among the births reported to the health officer of the county by Dr. Coggin, no mention was made of the delivery of Mrs. Hughes."

"The President of the Society, Dr. E. T. Camp, of Gadsden, invited Dr. Coggin to be present at the June meeting to exhibit his patient, and to produce such other evidence as he might have to establish his claim. He was assured a fair hearing and official endorsement of his claims should he furnish proof of them. He failed to appear."

If any symphyseotomies antedating Pinard's are to be accepted, their authentication must be established on better evidence than the affidavits of alleged operators who do not command the respect and confidence of their professional associates.—Chas. Jewett, M.D, in Brooklyn *Medical Journal.*

Burns.

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NOTES AND ITEMS

Church Funeral Reform Association.—The report of the work done in 1893 by this society was presented at the annual meeting at the Mansion House, London, Thursday, June 28. The Lord Bishop of Gloucester and Bristol was in the chair.

From it we learn that, besides other work, sermons were preached in London and elsewhere during the Church Congress, meetings were held, and papers read in many parts of the country. A memorial has been presented to the Home Secretary by a deputation, introduced by the Duke of Westminster, asking for an inquiry into the evils attendant upon prevailing modes of burial with a view to improve legislation, as also an inquiry into the effect of earth-to earth burial upon the soil around, the water below, and the air above burial places, with a view to obtaining an authoritative declaration upon earth to-earth burial. Continuous efforts have been made to induce persons of influence to promote a simple, economical and scientific mode of burial, in accordance with sanitary law, which shall dispense with durable coffins and vaults. Attempts have been made to inculcate the idea of friends subscribing to a hospital, or spening their money in helping the living in token of their respect for the dead, rather than by large expenditure upon excessive floral decoration. An effort was made to establish a Reformed Burial Company. The annual meeting was held at the Church House, Westminster, Sir F. C. Milner, Bart, M.P., in the chair. The Association has tried to make known the object of the Necropolis Company, by whom the society's mode of burial is carried out with complete success; also, the Necropolis coffin of compressed pulp; and Mr. Stretton's bier, which may be wheeled into the church and then be placed over the grave; and other useful specialities. Attention was called to the fact that, in the year of 1890, there were 70,000 deaths from zymotic diseases, and that, therefore, there were 70,000 bodies containing germs which, unless destroyed by chemical compounds, placed around the body in the coffin, might reproduce the disease. This was made the groundwork of an appeal to the Government to make compulsory the destruction of infectious germs.—*H. of H; Dietetic and Hygiene Gazette.*

Is There a Crying Necessity for the A. A. R. S.?—"In the motive lies the good or evil, and upon this occasion there is no wisdom like frankness"

I have recently read a circular headed "Office of the Chairman of the Committee on the Permanent Organization of an American Academy of Railway Surgeons," which bears to my mind a seeming fair face but motives plainly inimical to the best interests of railway surgery. No one can deny the right of any person starting a new organization, and in this particular instance that right is accorded, but the motives that prompted it have become almost common property. Certain gentlemen connected with the National Association of Railway Surgeons not being satisfied with the results which occurred at the late meeting of the National Association at Galveston, have simply determined to form an exclusive organization in which only such railway surgeons as shall suit their purpose will be admitted. The educational character of the new organization is expressed in the objects for which this association is formed, that is, "to cultivate the higher order of railway surgery" with a limited number of permanent members, who shall be "worthy and well qualified" for membership. Now, then, is the real motive of this new organization to cultivate "the higher order of railway surgery" only by a limited number of railway surgeons who shall be "worthy and well qualified," or is the real aim to disrupt the National Association of Railway Surgeons? We believe that it was a common assertion in Galveston that the National Association of Railway Surgeons was to be destroyed because of the ambitions of seme of its members were not gratified. In the original formation of the National Association of Railway Surgeons its basis and plea was to encourage communication and contact of the local surgeons, that by discussion mutual benefit would result, and above all it was to be broadly educational. This was the plea, this was the argument used in obtaining transportation.

The history of exclusive organizations, particularly those connected with medicine, does not seem to be the history of educational brilliancy, but individual brilliancy, and we make the assertion that the American Medical Association is infinitely a greater educational factor than fifty exclusive medical organizations. No reasonable person would controvert the benefit arising from the formation of specialists into societies, but no sane person would believe that there was any necessity for this same organization to have an offshoot to cultivate "the higher order, and that only worthy and well qualified" persons would be taken in, when the real necessity and qualification was only to perpetuate certain of its members in official positions. The real value of the National Association of Railway Surgeons is its democratic construction, broad and liberal purpose of diffusing whatever knowledge that may accrue in its work to all its members, and thus far has been as potent a factor for good as any organization ever formed. It would appear that the American Academy of Railway Surgeons is to be an exclusive and aristocratic body, and probably may have the history of all aristocracy, of which it has been asserted that there are three successive ages, the age of superiority, the age of privilege, the age of vanity. But it would seem that the American Academy of Railway Surgeons has started out backward, it bulges with vanity, its superiority undemonstrated, its privileges wanting, but its cunning manifest. It is true, and we are thankful that it is true, that nobody was ever so cunning as to conceal his being so. This cunning circular has for its base only private self-

ish aims, and floats supreme between virtue and vice. We believe with Rochefoucault, "the common practice of cunning is the sign of a small genius. It almost always happens that those who use it to cover themselves in one place lay themselves open in another."

Some of the framers of this circular, while using that multi-hued aureated garment of higher mental accomplishment, show their real purpose in actions and words which leave no doubt as regards their intent. Theirs is the policy of "rule or ruin," and they ape sweet virtue in the guise of wisdom, but then "cunning to wisdom is as an ape to man." Who will deny the good work done by the National Association? This association was not formed to gratify the selfish aim of any man, but for the good of all. Now let the aristocratic American Academy of Railway Surgeons proceed with their select few. The writer is for the National Association of Railway Surgeons as we believe it more competent to do good, of purer purpose and infinitely broader in educational virtue. Let the A. A. R. S. proceed and try to poison the minds of railway managements in the direction of transportation. Managements of railways are great in the interpretation of motives, that is a part of their business, and they rarely if ever use unsolicited advice. Pray, who employs the A. A. R. S. to graciously advise the railway companies in what they should do in this direction? Is it done from honest and disinterested motives? Aye! our saintly and solicitous A. A. R. S will find the railway companies are "unlike musical instruments, in fact they are not easily played upon," and rarely, if ever, will emit the tune suggested, particularly when it is suggested by an A. A. R. S For one I am morally convinced that the National Association will exist and thrive in consequence of its broad and honest purpose, its strong and high educational character, its laudable, democratic course. Formed, not in the interest of the single individual or ring, but for the whole as an association, its reputation made by its past, and I predict its sphere of usefulness will be broader in the future.

I have an abiding faith in the good sense of our members; chaff and platitudes are weak weapons when opposed to honor, integrity and common sense. If cunning or deceit can mar the stability of the National Association of Railway Surgeons it ought not to stand; but we maintain that its truthful course has been demonstrated in the past. Thus may it ever be. Then let us repeat in that eloquent fervor and splendid gem-decked climax of Rufus Choate, "All that happens in the world of nature and man—every war, every peace, every born of prosperity, every born of adversity, every election, every death, every life, every success, and every failure, all change, all permanence, the perished leaf and the unutterable glory of the stars—all things speak truth to the thoughtful spirit." Time alone will demonstrate the verity and value of what has attained honor and reputation, and the make-believe which claims as its necessity failure when the reverse is true. —W. B. Outten, in the *Railway Surgeon.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

A Few Observations on Internal Parasites of the Domestic Animals.

FILARIA IMMITIS.—This parasite is one of the most frequent, if not the only cause of dropsy in our southern climate. Although my experience in canine practice is very limited, yet the eight cases of dropsy that have fallen into my hands have invariably evinced the same general symptoms and on post-mortem have revealed the same pathological changes.

Furthermore, the history of the disease, as gleaned from our local huntsmen, bears out the theory of its etiology advanced by Neumann, viz.: That it occurs most frequently in marshy countries, and that its intermediate host is concealed in the drinking water. For, of all dogs the hunter is the most common victim of this filaria, and the hunter is most exposed, by virtue of his habits, to the above conditions.

The following is a resume of eight cases:

SYMPTOMS.—These are most unsatisfactory unless ascites be present. There is usually a husky cough, accompanied by some distress of respiration. Appetite may remain good until nearly the end, no fever, pulse as unreliable as it generally is in dogs, and bowels reveal nothing. If there is any one symptom more pathognomonic than another, before dropsy manifests itself, it is the shortness of breath, with asthmatic paroxysms. There is usually a livid color of the tongue and visible mucous membranes after extreme exertion and occasionally a convulsion or asphyxiation.

PATHOLOGICAL ANATOMY.—The heart and larger blood vessels are the principal seat of disturbances. I have noticed these worms in both ventricles, both auricles, the aorta, the pulmonary artery and the lungs. The liver and spleen also show morbid changes. In one instance, both heart and lungs were pierced by these worms. In another case there was a cavity in the left lung about the size of a pecan nut containing a nest of filariæ. The spleen was studded around its entire edge with blackish lumps interspersed with one or two white ones. These nodules were about the size of a pea, homogeneous in structure, and contained what seemed to be embryos of the filariæ. The lungs have a peculiar ashen color; the liver is very dark and cirrhosed. There is more or less amber-colored serum in both the thoracic and abdominal cavities.

How long it takes these worms to develop fatal symptoms depends on their number and location. Two cases lived more than a year after the dropsy appeared. One of these, a pug bitch, whelped in this condition, giving birth to two puny pups, which lived but a few days. After decided symptoms develop, as dropsy and labored respiration, death generally ensues in about two weeks. Treatment is of course nil.

Nitro-glycerine in 1–400 grain dose will relieve the paroxysms.—Arthur S. Wheeler, A.B., V.M.D., Meat and Cattle Inspector for the New Orleans Board of Health, in *Veterinary Magazine.*

The Effects of Castration Upon the Prostate Gland.

It was suggested some time ago that possibly, if there exist an analogy between uterine fibro myomata and prostatic over-growth as supposed by some, castration might have the same effect upon the prostate gland as oophorectomy does upon the uterus, and cause a shrinkage or atrophy, resulting in a practical disappearance of the enlargement.

As no referenee had ever been made to the subject, I made a series of experiments in conjunction with Dr. J. William White, the results of which are here subjoined.

In the experimental work dogs were used, partly for convenience, and partly because it is known that in this animal, the prostate occasionally undergoes changes similar to those found in the human subject.

The literature was carefully looked up, and no reference as to the average or normal weight of the prostate in dogs could be found.

For control experiments thirty-five dogs and their prostates were weighed, and the average weight taken as a standard.

The average weight of the prostate of the thirty-five dogs examined was 15.374 grammes.

The influence of castration upon the prostate was examined in eleven dogs.

1. The first dog was killed on the 17th day after castration, weight 15 kilos. The average weight of the prostate in dogs weighing from 14 to 16 kilos inclusive was 15 grammes. The weight of the prostate in animal number one was 5.420 grammes.

2. Weight of dog, 14 kilos. The average weight of the prostate in dogs weighing from 13 to 15 kilos inclusive, 13 grammes. The dog was killed 21 days after castration, and the prostate found to weigh 5.700 grammes.

3. Weight of dog, 14 kilos. Killed 30 days after castration; weight of prostate, 2.600 grammes.

4. Weight of dog, 20 kilos. Average weight of dogs weighing from 19 to 21 kilos inclusive, 19 grammes. Killed 32 days after castration; weight of prostate, 2.620 grammes.

5. Weight of dog, 15 kilos. Average weight of prostate in dogs weighing from 14 to 16 kilos inclusive, 15 grammes. Killed 41 days after castration; weight of prostate, 5 700 grammes.

6. Weight of dog, 31 kilos. Average weight of prostate in dogs weighing 29 kilos and upwards, 30 grammes. Killed 54 days after castration; weight of prostate, 4.420 grammes.

7. Weight of dog, 23 kilos. Average weight of prostate in dogs weighing from 22 to 24 kilos inclusive, 21 grammes. Killed 54 days after castration; weight of prostate, 2.700 grammes.

8. Weight of dog, 15 kilos. Killed 60 days after castration; weight of prostate, 1.500 grammes.

9. Weight of dog, 22 kilos. Killed 61 days after castration; weight of prostate, 4.000 grammes.

10. Weight of dog, 25 kilos. Average weight of prostate in dogs weighing from 21 to 29 kilos inclusive, 21 grammes. Killed 65 days after castration; weight of prostate, 4 500 grammes.

11. Weight of dog, 26 kilos. Killed 72 days after castration; weight of prostate, 3.920 grammes.

The average weight of the antrophied prostate gland in the eleven dogs experimented on was 3.916 grammes. If we compare this average with the average weight of the normal gland, which was found to be 15.347 in thirty-five cases, we find the average loss of weight consequent upon castration to be 11.458 grammes. The average, of course, holds good only for the above eleven animals when compared with the average of the normal gland of the thirty five animals used in the control experiments.

Griffiths contributes four observations of his own, two in the dog and two in the cat, the castration haveing been performed for other reasons years before, in all of which the prostate had been transformed into a mass of fibrous conective tissue. He also examined the generative organs or the pig, bullock, sheep and horse after castration, and found that in each case like changes had supervened.

Hunter made the interesting observation that the prostate gland of the mole in winter is hardly discernible, but in the spring becomes very large and filled with mucous.

Owen confirms this and adds that the prostate of the mole begins to increase in February, acquiring an enormous size and entirely concealing the urinary bladder toward the end of March, showing the relation of the size of the prostate to the functional activity of the generative organs.—Ellwood R. Kirby, Assistant Instructor of Clinical Surgery in the University of Pennsylvania, in *Veterinary Magazine.*

MENSTRUAL DERANGEMENTS.—Few women are free from those tormenting headaches, backaches, ovarian neuralgia, gastric and vesical irritations during the menstrual molimen, and which are so distressing as to drive a much larger number to the use of opium than is generally suspected. Dioviburnia contains no opium but is equally efficient in giving relief and at the same time cures by its tonic and alterative effect. Try it, doctor.

"SANTA FE ROUTE" St. Louis & San Francisco Railway, is the most popular through car route from St. Louis to all points in Missouri, Kansas, Oklahoma, Indian Territory, Texas, Colorado, Wyoming, Utah, New and Old Mexico, Arizona, Idaho, Montana, Nevada, California, Washington and Oregon. Elegant Pullman palace sleepers, reclining chairs (seats free), coaches on all through trains. For time tables, maps, rates and full particulars address nearest agent of the Santa Fe Route. H. L. Morrill, General Manager, St. Louis, Mo. D. Wishart, General Passenger Agent, St. Louis, Mo.

DR. G. ARCHIE STOCKWELL (Boston *Medical and Surgical Journal*) says: "In moderate doses Coca causes increased arterial activity, stimulates the alimentary secretions and peristaltic action, diminishes weariness, strengthens the pulse, calms nervous excitement, retards waste, facilitates repair, alleviates spasms, and increases mental activity—in fact, it is an economizer of vital energy and an effective aid to nutrition. It invariably contributes to mental cheerfulness. In melancholia, or where nervous depression exists, its action in promoting cheerfulness is marked, and its influence upon the digestive functions will doubtless cause Coca to be prescribed for many of the diseases of so-called dyspeptic character and those irregularities arising from non-assimilation of food."

ASTHMA.—The addition of five grains of iodide of potash to one drachm of Neurosine will effect surprising results in Asthma and often cure permanently if persevered with for a sufficiently long period.

SANDER & SONS' EUCALYPTI EXTRACT (EUCALYPTOL).—In the article treating on inhalations of eucalyptus in cases of diphtheritis (Berlin *Klin. Woch.*, 1876, No. 21) by Prof. Dr. Mosler, Director of the Medical Clinic of the University at Griefswald, it is stated: "The oleum eucalypti folies, I employed in my tests, I received through Holzle & Chelius, Frankfort-on-the-Main; it must not be mistaken for the more frequently offered oleum eucalypti australe which is obtained from the wood of the eucalyptus trees. This latter oil is used commonly for mechanical purposes and has a far cheaper price; it is, however, no longer applied by me as an internal medicament." We certify that the oleum eucalypti folies named in the Berlin *Klin. Woch.*, 1879, No. 21, and there mentioned to have been procured from us, was the product of Messrs. Sander and Sons, Sandhurst, Australia. Holzle & Chelius, Frankfort-on-the Main, Agents.

WE HAVE just read the Electro Therapeutical Catalogue, sixteenth edition, containing 200 pages, published by McIntosh Battery and Optical Company. No physician can well afford to be without this catalogue. It is almost equal to a text-book on electricity. It contains information that every physician should know relating to the various electrical apparatus and the manner of applying them. It explains the effects of the different currents, negative and positive poles, etc., fully teaching the application of electricity in surgery, gynecology, dermatology, etc. This valuable catalogue is given absolutely free. Send coupon on page 4 for catalogue "FF" to McIntosh Battery and Optical Co., 141-43 Wabash Ave., Chicago.

THE SUCCESS of the Fellows Syrup of Hypophosphites has occasioned many unscrupulous manufacturers to put up a syrup resembling in appearance, etc., the "Original Fellows Syrup," trying to pass theirs off as being just as good. They have never succeeded in producing the same therapeutical effects as with Fellows. Mr. Fellows has examined several of these and finds that no two are alike. This is a compound syrup of hypophosphites containing iron, manganese, quinine, strychnine and phosphorus. Mr. Fellows advises as a further precaution to specify "Fellows Compound Syrup Hypophos," when prescribing same. It is well also to observe when ordering this preparation that it is dispensed from original bottles. When using a compound syrup of hypophosphites we never fail to specify "Fellows." We have always derived great benefit from its use.

WM. R. WARNER & Co., the reliable manufacturing chemists of Philadelphia, have been awarded the grand prize at the Antwerp Exposition for the purity and excellency of their preparations. This speaks well for American enterprise.

BARTLEY SMITH, M.D., of Neola, Kans., writes as follows to the Dios Chemical Co., St. Louis: "I have tried your sample of Sennine you had the kindness to send me and found it a very excellent agent in severe sore throat, burns and diseases of the stomach. I will give it a place among my favorite medicinal agents."

C. E. POSTLEY, M.D., of Washington, D. C., writes as follows to the Antikamnia Chemical Co., St. Louis: "I desire to thank you for sampies of the drug, often but poorly imitated, made by your firm and known as Antikamnia. The adoption of the monogram on the new tablets and the recall of all the old stock from the market will prove of benefit to you and the many physicians who may hereafter desire to afford relief by its use.

COMPOUND TALCUM BABY POWDER is invaluable in the care of the skin of infants and children. It is antiseptic, antizymotic and disinfectant. It is most efficacious in preventing erythema intertrigo, and in curing the same in very severe cases. It is also indicated in the various papular vesicular and pustular skin diseases. This valuable preparation was first presented to the medical profession in 1873, after five years of careful research and experimenting, by its originator, Dr. Julius Fehr, of Hoboken, N. J. In 1874 it was exhibited at the meeting of the American Medical Association at Louisville, Ky., where it excited great interest on account of its originality and scientific value. In 1890, by invitation of Surgeon-General Wales, it was placed in the Museum of Hygiene, Washington, D. C., for permanent exhibition.

HENRY E. DWIGHT, of Philadelphia, writes as follows to the McArthur Hypophosphite Company: For thirty years I have used Syrup of the Hypophosphites and Churchill's formula since its introduction to the American market through Dr. McArthur. It is certainly one of the best, if not the *best*. I have known in the practice of medicine.

It is remarkable for its combination of all the ingredients which are so well blended together in it and gives satisfaction to the patient and success to the practitioner.

BILLINGS, CLAPP & Co., of Boston, Mass., perhaps one of the oldest of the reliable manufacturing chemical concerns in this country, are having great success with Nichol's late preparations, Iodide of Lime for fibroid tumors and Nichol's Bark and Iron for anemia. They will cheerfully mail literature and samples to physicians on application.

D C. GENTSCH, M.D., of New Philadelphia, Ohio, writes as follows to the Wayne Elixir Company: Many thanks for the bottle of Wayne's Elixir of Buchu, Juniper, Acetate of Potassium, etc., duly received.

Upon examination and trial, both as an old pharmacist and physician, I find it a pleasant and effective remedy in all inflammations of the genito-urinary tract, and fully in keeping with the highest requirements of the pharmaceutical and medical professions.

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Some Points in the Technique of Trephining.

BY J. F. BINNIE, M.B., C.M.,

Professor of Surgical Pathology and Clinical Surgery, Kansas City Medical College.

It is not my intention to weary you with any attempt to describe the operation of trephining—any such attempt would be an insult to this Society. My object is merely to draw attention to a few practical details which may be of use to us in dealing with cases requiring trephining.

The Temperature of the Operating Room.

Theoretically, when any body cavity is opened, it is well to endeavor to have the air of the operating room heated to such a degree that the patient cannot lose heat by radiation from the exposed vessels and tissues. Practically, however, it is more important to pay attention to the comfort of the surgeon and his assistants. No one can do his best work unless he is fairly comfortable and certainly a room heated to 96° or 100° F. is neither conducive to comfort nor good work. When a surgeon is working hard and the temperature of the room is too high, he sweats profusely. Much of this sweat, with its load of bacteria, drops from his forehead or nose and may enter the wound. Or the sweat from his arms runs down to his hands and fouls the wound.

The disadvantages, viz., discomfort and perspiration, more than counterbalance the advantages of an operating room with a high temperature.

A good method of keeping the patient warm, without inconveniencing the surgeon, is to have the operating table fitted with a long flat hot water case on which the patient lies.

Cleaning of the Parts to be Operated on.

This is best, when possible, attended to the day before the operation is performed.

After shaving, etc., it is my custom to make use of the permanganate of potash and oxalic acid method of sterilizing the skin. Occasionally just before operating I pour over the scalp a quantity of iodoform ether.

During the operation hot water is used in place of antiseptic solutions unless in cases where *pus* is present.

Prophylactic Treatment of Hemorrhage from the Scalp.

Of all the methods of preventing hemorrhage from the scalp, during operation, which I have tried, Lanphear's chain suture has given most satisfaction. It is easily applied and does its work well. As a rule, however, one can trust forceps and pressure as means of controlling the hemorrhages.

Opening the Skull.

To day, especially amongst those who are under the influence of German surgery, the chisel is the fashionable instrument with which to open the cranium. My personal experience with this method is small but unfortunate; shock has been grave or fatal and hence I never use it. Any clean trephine is a safe instrument to use. Probably the conical crowned instrument of Galt is safer and more convenient than the old trephine, but the latter is preferable if the button of bone is to be replanted.

Hemorrhage from the Bone

may be considered. How can we staunch it?

1. Much may be done by pressure from very hot gauze pads.

2. Partially crushing the two tables of the skull together by means of rongeur or sequestrum forceps is efficient. This crushing must not be too vigorous or death of the bone may result. In one case of my own a piece of bone ¾x¼ inches was exfoliated causing delay in healing.

3. If the bleeding from the diploe is marked at certain points, the point of a closed hemostat or of a periosteal elevator pushed into the cancellous bone so crushes the bone that hemorrhage stops.

Hemorrhage in lacerated or incised brain tissue may be treated in several ways.

1. When from fair sized vessels these may be picked up with forceps and greatly ligated.

2. Very hot water may be used. The brain bears

the action of hot water well. Water which feels uncomfortably hot to the head may be used with safety. Besides acting as a hemostatic agent hot water applied to the brain is an excellent stimulant as I have had frequent opportunities of observing.

3. If the means of stopping hemorrhage, which have already been spoken of, fail, packing with iodoform gauze may be practiced.

Drainage.

In suppurating cases tubular drainage is a necessity. In other cases, except under special conditions such as an oozing of blood, etc., no drainage is required. If drainage other than tubular is to be used a few strands of catgut or well-softened silk-wormgut fulfill the indi cations excellently. The silk-worm gut has the disad vantage of requiring to be removed.

Iodoform gauze when properly used makes a good capillary drain, but there must be no tight packing or curling up of the gauze, especially near its exit through the skin. In three separate cases I have seen gauze which had been intended to drain act as a plug causing the retention of much bloody fluid which by its irritation occasioned severe epileptiform seizures.

Dressings.

If a non-absorbable drain is used the dressings must be changed and the drain removed generally on the second or third day. If no drain or an absorbable one is used the dressings need not be changed until the wound is healed, unless special indications arise.

The fact that the dressings are stained with bloody serum does not call for a change as long as the stains are dry and the temperature and pulse give no cause for alarm.

Watermelon Seed in the Trachea Removed by Tracheotomy After a Week.

BY L. C. ARMSTRONG, M D., TAYLORVILLE, ILL.

Girl, five years of age, while eating a piece of melon in some way drew a seed into the trachea. A physician was called and gave the patient ipecac and suspended her by the feet for a time. The ipecac soon responded, the patient vomited a few seeds, and in a few minutes the seed fell into the bronchial tube; the patient got fairly comfortable and remained so with the exception of a bronchial cough after a few days. The physician in attendance assured the family that she had vomited the seed up and that she would have no further trouble.

In a day or two after the accident, according to history the family gave me, the little patient began to manifest a very considerable bronchial trouble, but the seed seemed to have been impacted and was never raised up into the trachea until the sixth day after the accident, when upon running the child began to cough and strangle.

I was called in at this time, it being my first visit. Upon reaching the patient, who only lived a few blocks distant, I found her reasonably quiet, as the foreign body had again dropped into the right bronchial tube.

The bronchial trouble was all confined to the right lung. After getting the consent of the family I advised an operation and the patient put under an anesthetic. Assisted by Drs. John, the attending physician, and Staued, I opened the trachea as low down as I could, the incision with the head extended over a roll of muslin under the neck. Upon opening the trachea there was expelled a lot of mucous but the seed remained out of sight. Since it was getting late in the evening I inserted a trachea tube, and left Dr. Staued with the patient until morning. The next morning I removed the tube and left wound in trachea open with the hope that in case the seed became loose it would be coughed out at the wound left in wind pipe, and sure enough my hopes were realized. That afternoon the seed was expelled through the wound while coughing, and at this writing, a week since the operation, the patient is well, and the wound has closed by granulation.

Regulation of Prostitution.—At the recent Congress of Syphilography M. Dron offered the following propositions: 1. Society ought to protect itself against venereal disease as fully as against any other of the contagious diseases. In order to lessen the ravages of syphilis, weekly inspections of the inmates of houses of prostitution should be imposed, and those exhibiting any symptom of venereal disease should be sent at once to hospital. While these measures would be beneficial they would not afford absolute guarantee, for all practitioners have seen patients infected by inspected women in whom no symptom of the disease was detected; again, if the disease is in the secondary stage syphilitic lesions may manifest themselves in the interim between inspections. In case any prostitute exhibits syphilitic spmptoms she would be interdicted from plying her vocation until all danger of contagion is past; to be positive three years should elapse from the time of the primitive lesion or from the first appearance of secondary lesions; this is the length of time the proponent has exacted before permitting a syphilitic to contract marriage. In conclusion M. Dron thought the Congress would not be justified in indorsing a proposition to consider any female afflicted with syphilis as a prostitute! On the whole the American or modern proposed method of regulating this evil seems more decent and reasonable—to treat the male prostitute as at least equally culpable with his companion, and to subject him to the same measures of inspection, immurement in hospital and interdiction from his vocation and from marriage.—*Journal of the American Medical Association.*

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

All letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, should be addressed to 914 Locust Street, St. Louis.

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Poor-House Superintendent versus Poor-House Doctors.

That the physician's career is not a path strewn with roses exclusively, and thornless ones at that, is an every-day observation and as old a one as the profession itself. But the time-honored and generally well-working consolation in undeserved misery to look below cannot be invoked by those gentlemen whom providence has honored with the position of physicians to the St. Louis poor-house.

In the light of certain happenings at this institution during the last week the position of a St. Louis poor-house doctor constitutes about the lowest rung of the long ladder of the medical profession.

To most physicians who ever had the good luck (or misfortune) to serve their fellow citizens in a city, county or State institution, the duality of government represented by manager and resident physician is a matter of sore reminiscences. Owing to the constant clashing of authority and interminable squabbling about duties and rights, the position of superintendent and resident physician have, in most institutions, been melted into one. The physician is the first and only responsible officer of the hospitals and asylums.

A poor-house is largely a hospital. Decrepid people who are unable to work on account of physical or mental defects inhabit it. They are chronic cases generally looked upon as incurable. These facts incurability and chronicity do not imply, at least to the humanely thinking portion of the community, that these unfortunates should not be treated skillfully and conscientiously. Our Christian civilization has not formulated the tenet yet that a sick pauper should be treated on a different plan from the inmate of other city or State institutions.

Therefore a physician ought to be at the head of the poor-house wherever an institution of the chronic sick and destitute exists by that name. A physician ought to have the exclusive responsibility as he has, much to the welfare of the inmates, in the hospitals and the insane asylums.

St. Louis still glories in the possession of a poor-house over which a superintendent rules like a Czar over patients alike and doctors. His name is Gallagher!

One of the doctors had aroused his indignation by his assiduous though admittedly decorous attention to a female attendant. Probably if there is any courting to be done the old man wants to attend to this himself. A doctor must attend to his own business. The most grievous offense, however, was that the doctor had considered Dr. Mueller, of the Insane Asylum, a bigger man than Gallagher.

Shortly after this doctor had been discharged by Czar Gallagher, the remaining one followed suit. He was notified that Gallagher did not want his services any longer. This doctor had had the temerity of preferring charges against the autocrat. A prompt bounce was the only, but emphatic response.

Gallagher is a plumber by trade. All the plumbers say he makes an excellent poor-house superintendent. About a year ago this was not the opinion of the charity commissioners. They thought that Gallagher might be a good plumber, but held that as a superintendent of the poor-house he was a glaring failure. They investigated him for alleged rotten conduct in office. This investigation, followed by a formal deposal, proved to be a farce. Gallagher, by his celtic humor and a superabundant amount of congenital brass, managed to get the laugh on his side. He still holds the fort whilst the charity commissioners seem to have evaporated. They have been silent and inactive since Gallagher came out of the combat with colors flying.

Gallagher is a mighty man; he belongs to the push. If there is a doctor bold enough to apply for one of the vacant places at the poor house, he had better make terms with this autocrat of the paupers, assuring him of his undying fealty and absolute submission.

The funny part of this occurrence lies in the fact that when this matter was brought up before the board of health, that body bowed its acknowledgements to Czar Gallagher, whom it upheld as against the doctors. The only members that had some regard for the profession were Mr. Nagel and the ex-officio President and Health Commissioner Homan. Drs. Forster and Robinson

were solid for Gallagher. Finally, however, a sort of compromise was effected; one of the rebellious doctors was sent back to the poor-house. Thus Gallagher is only semi-triumphant.

Resolution Adopted by the Missouri State Board of Health.

The methods pursued by some of the medical colleges of this city seem to have been brought to the attention of the State Board of Health.

The MEDICAL REVIEW congratulates itself that its efforts in the direction of medical reform have borne fruit so quickly.

The following is the resolution which was unanimously adopted at the recent meeting of the Board:

"No medical college guilty of issuing a catalogue or prospectus in which are contained material misrepresentations concerning its teaching facilities, course of study or false representations in the list of students matriculated or in attendance, shall be in good standing with this Board."

The Nutritional Element in the Causation of Neuroses.

In a paper read before the American Pediatric Society Dr. Christopher, of Chicago, said that in the production of neuroses the following positive etiological factors were present (*Jour. Amer. Med. Ass'n*):

1. Heredity.
2. Anemia.
3. Some local condition acting reflexly as the immediate exciting cause.

He said that there were many changes in the blood affecting its nutritive value which we could not determine clinically. The estimation of the quantity of hemoglobin and the number of corpuscles were the only examination which were possible clinically, and these did not give very satisfactory evidence of the nutritive elements present in the blood. The changes occurring in the blood were directly dependent upon the chemical composition of the tissues and upon the environment of the tissues. The chemical composition of a tissue depended directly upon the nutritive supply, and indirectly upon the trophic influences governing it. He would define a neurosis as a group of phenomena resulting from such abnormal action of tissues as might be dependent upon one or more of the following conditions:

1. Abnormal chemical construction of the tissues.
2. Abnormal chemical composition of the nutritive element supplying the tissues.
3. Derangement of the nerves.

Each individual required not only a certain bulk of food, but also a certain variety in his diet to meet the various chemical requirements of the organism. The proteids, carbohydrates and fats did not supply the needs of the system completely. Aside from salts and water there are other things present which probably acted as food. The nutritional antiscorbutic element, for instance, had as yet escaped detection by the chemist. We know, however, that it was needed in comparatively small quantity and that it might be withheld for a considerable time from the organism without detriment to the general health, and that the deficiency might be made up after it had been absent for some time. If the food were sufficient in kind but insufficient in quantity, the result would be complete starvation. Incomplete or partial starvation occurred when the food was deficient in variety. It was obvious that complete and incomplete starvation might occur in a given individual at the same time. These varieties of starvation were, moreover, largely relative. The idiosyncrasies of individuals had some influence. For example, one child with a certain amount of fat in its food would show distinct evidences of fat starvation, while another with the same amount of fat in its food would give no such evidence of any abnormal condition of the system. Partial starvation was important in the production of neuroses. It was more noticeable in infants than in adults. Neuroses from incomplete food supply might be termed physiological nutrition neuroses, in contradistinction to those which resulted from a perversion of nutrition as a result of the presence of toxic substances in the body. This latter condition might well be termed pathological nutrition neuroses. The commonest form of partial starvation in infancy was fat starvation, and this was not to be wondered at when it was remembered that the infant required three times as much fat as the adult. In view of the large use of commercial infant foods, it was also surprising that so many infants escaped the result of fat starvation. Fat starvation was the commonest cause of rickets—a condition which could be cured by making up the fat deficiency in the diet. Proteid starvation was much less common. Rickety children were much more liable to neuroses—for example, sweating about the head; excessive sweating, the speaker thought, was often due to fat starvation. The partial starvation resulting in scurvy, the speaker said, was not infrequently met with. Many badly nourished children could not be classified as rickety or scorbutic, but they nevertheless presented some evidences of starvation. Our knowledge of the finer points of nutrition was sadly incomplete. There were, no doubt, such conditions as calcium starvation, potassium starvation, chlorine starvation, etc., and each probably had its peculiar symptoms and neuroses which as yet were unrecognized by us. In the causation of changes in the tissues there were other factors besides interference with the food supply—*e. g.*, abnormal nerve impulses, direct toxic action, and pathological conditions affecting the organism, such as syphilis and other infectious diseases. Referring to the question of heredity, the speaker said that when racial atomism took the chemical line, the tissues and organs were formed with

more or less of the functions characteristic of the type indicated, but other organs did not follow this type, and hence there was a clashing of function. The most striking example of this was lithemia. In conclusion he would say that abnormal chemical structure of the tissues was responsible for the production of neuroses, and that such abnormal structure might result from:

1. Heredity.
2. Deficient constructive metabolism, resulting perhaps from insufficient food supply.
3. Deficient destructive metabolism.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Sept. 29, 1894, A. D. WILLIAMS, M.D., President pro-tempore, in the chair.

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[Owing to the delinquency of some of the members of the St. Louis Medical Society who took part in the discussion of its meeting of September 29, the editor of the proceedings of the Society was not able to furnish us with a copy of the proceedings of that meeting in due time, compelling us to publish in their place the proceedings of October 6, which appeared in our last issue.]

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DR. H. W. LOEB presented a case of "Congenital Malformation, or Arrest of Development of the Nose." It was a case called "Doggen Nase" (dog nose) by German scientists. It was very broad and had a very flat ridge. The alæ were widely separated a thick broad septum.

DR. LOEB had brought the case before the Society to illustrate the lack of development, and to show the approximation of this child's nose to that of some lower animals. It is a case of congenital malformation for which we can assign no special reason. It exhibits, most beautifully, the manner in which the nose is developed in the embryo. The first portion to appear is the olfactory plate, which is the portion which springs from the anterior vesicle of the brain. Subsequently, there appears a little pit at each corner of the mouth, which gradually increases in size and approaches the median line, so that in a fully developed child the nostrils are closely united in the median line. In the case presented it is easy to see that this had not been accomplished, and that a considerable mass of tissue intervenes between them.

Inasmuch as the patient is a girl, it is, of course, advisable to correct the deformity and to improve the appearance of the nose. It was to receive suggestions in this regard, as well as to show this most interesting case, that the speaker had been prompted to present the child.

DR. MEISENBACH had first seen this case at his clinic. The correction of the malformation will involve a plastic operation. In doing this we should be careful that the operation leads to a correction of the deformity without leaving a scar that would be more objectionable than the original condition. In the case before us the malformation itself indicates the various steps of the operation. In the first place the bridge must be narrowed. This could be done by the median incision, but the result would not be a good one from a cosmetic standpoint. A better method would be to make incisions along the sides of the nose, loosen the nasal process of the malar bone and internal septum if necessary and remove the superabundant tissues from the sides. The septum could be narrowed by the median incision made along the inferior surface.

DR. W. B. DORSETT demonstrated Nothnagel's test of determining the peristaltic action of the bowel. The experiment was made on a rabbit under the influence of an anesthetic, and consisted in powdering a portion of the intestine with carbonate of soda. The portion treated immediately contracted down to a very small lumen, and was inclosed by the upper portion slipping down over it, thus forming a complete intussusception.

***

DR. A. H. MEISENBACH read the following clinical histories:

CASE I.—On Monday, September 24th, I was called by Dr. Aug. Schmidt to see Mrs. F., aged 38. The doctor had been called an hour or two before sending for me. The following history was given. History of femoral hernia which had become incarcerated the Saturday night previous. Attempts at reduction, made by members of the family, failed. All sorts of topical applications had been made. Dr. Schmidt had been sent for after the woman had been suffering for forty eight hours. She vomited and it was stercoratious when first seen by the doctor. Dr. Schmidt's diagnosis was strangulated hernia, and he suggested immediate operation. I was sent for, but being away from home, I did not see the case until between 5 and 6 P.M. Found the patient a strong woman, pulse rapid, temperature slightly above normal (100°), vomiting intermittent and fecal. In the left groin below Poupart's ligament was a tumor about the size of a hen's egg. It was reddened, somewhat bluish in the center and tender to the touch. The diagnosis was clear, namely, strangulated femoral hernia on the right side. I fully agreed as to the advisability of immediate operation. The family consented, preparations for the operation were at once made with the assistance of Drs. Schmidt and Baumeis-

ter. By the time everything was ready to place the patient on the table, it was dark and the operation had to be done by the aid of a coal oil lamp held by one of the women.

On cutting down on the sac the tissues were found somewhat edematous and I expressed the fear to my assistants that the bowel would, in all probability, be found gangrenous, or the circulation so interfered with as to make its condition a serious one. So it proved to be. On opening the sac I found the small knuckle so completely wedged in that it was with difficulty that the constriction could be reached and divided. The loop of bowel was black in appearance. After I had relieved the constriction I drew out the loop and several inches of bowel on either side. I then applied warm water for awhile, two minutes, to see if the gut would change its color, but it did not. The following questions arose and had to be decided quickly:

1. Would it be safer to return it into the belly?
2. Would it be best to anchor it to the wound and make an anus preternaturalis?
3. Would it be best to make a resection of the bowel?

The first method was too risky a procedure. The second operation is one for which many surgeons are in favor as it requires a shorter time. Patient may recover, and if he or she does, a secondary operation will be necessary in order to close the preter-natural anus, and this secondary operation is not without risk. Considering the above I decided on an ideal operation, a resection, although it was attended by a greater risk. I made an end to end anastomosis with a Murphy button, which operation in itself did not require more than ten to twenty minutes, tied off the sac and united the sides of the ring with buried catgut suture. Placed patient in bed and applied warm bottles to the body. Patient died from shock during the night.

Remarks.—This case illustrates a very important fact, namely, that the time when an operation is done is very important, providing an operation be indicated. It is further an illustration of thousands upon thousands of like cases where patients are suffered to go under from "procrastination," "conservatism," so called, either on the part of friends, or, what is infinitely worse, on the part of the attending physician. I believe it is perhaps easier to condone the sin of a "little too hasty" an operation, than one a "little too late." In the first instance an operation is a safe procedure when properly done, in the last instance it is invariably fatal.

Now as regards taxis. Valuable as taxis is when properly done at the right time and by those accustomed to apply it in accordance with anatomical principles, (I say this advisedly because some of the harm done is because the anatomy of the parts is not understood), it can become an element of danger if applied at the wrong time in an improper manner. If, with the proper application of taxis in a given case, used early, with gentleness for a short time, a hernia can not be reduced, its further application becomes an element of danger. The sooner a surgical operation is performed the better will be the chances of the patient's recovery. Protracted taxis only crushes and bruises the gut and tissues and favors breaking down of the same, and interferes with the chances of success of a surgical operation which would otherwise almost be assured.

Case II.—H. B., aged 70, was seen by Dr. Weinsberg, Friday, September 7. The patient stated that he was suffering from constipation. He remained under Dr. Weinsberg's care until the following Monday, September 10. The usual remedies for the relief of constipation were applied without success. Monday noon Dr. Weinsberg called me to see the case, stating that his diagnosis was obstruction of the bowels, as all his efforts to obtain a movement from them had been futile.

I found the patient in bed, skin cool, pulse rapid, soft, easily compressible, sensorium clear, abdomen distended but soft, rectum empty. Careful percussion with deep palpation revealed nothing. No history of hernia. Patient stated that he had had repeated attacks of bowel trouble with constipation since several years. While under the care of Dr. W., patient had vomited dark material of a fecal odor. Agreeing with the doctor that obstruction existed, although it was impossible to locate it by any physical signs, I advised removal to the hospital as his surroundings were unfavorable, either for careful nursing or operation. He refused to be moved. Death ensued six hours after I first saw him.

Post-mortem within three hours after death.

Body still warm and in bed where I had last seen it. Incision from ensiform cartilage to pubis with transverse division of abdominal muscles without dividing the skin. Omentum covering the abdominal contents apparently healthy. Searching with the hand among the intestines nothing could be discovered at first except the immensely distended small intestines and a very much contracted colon from the cecum to the sigmoid. No twist or tumor discernable.

I now began a systematic search of the bowels. Traced the entire length of colon. Found it clear, entirely empty, but contracted. Beginning at the cecum, I traced the ilium from its insertion to the caput cecum to the left. Then about eight inches from the cecum I found the gut to lie downwards towards the brim of the pelvis and suddenly terminate at the site of the internal femoral ring. The bowel was fixed at this ring and empty up to this point. Continuing from this point to the ilium and jejunum presented no anomaly except great distension and a change of color, being congested in appearance. Here then, at the right femoral ring, was the site of obstruction. Tying off about eight inches of small intestine at either side I removed it along with the tissues forming Scarpa's triangle, thus retaining the anatomical relationship of the parts. Also removed the ascending, transverse and descending colon, and a section of the small intestine in its distended state.

Dissection of the Specimen.—Dissection of the specimen revealed that it was not a true femoral hernia.

What appeared to be a knuckle of bowel in the saphenous opening was a mass of fat, and this was now inclosed in a true sac formed by the peritoneum, as the cover did not appear to be continuous with the perietal peritoneum. This mass of fat was attached o the bowel, however, as tension on it drew the bowel partly into the femoral ring. On the inner side the bowel was tied down to the femoral ring by an apparently flat band. The wall of the bowel at this site was constricted and the lumen narrowed. From the appearance of this constricted part it seems as if it would readily twist on its axis.

In order to demonstrate the patulency of the bowel, I closed the narrowed end and tied a glass funnel into the other end. Pouring water into it, I found the constricted part patulous, and it then had the appearance of the bologna sausages tied in the middle. By twisting the bowel on its axis and letting one loop fall behind the other the lumen was obstructed. The same effect was produced by drawing on the mass of fat in the saphenous opening and drawing the bowel into the ring.

Rational of Obstruction.—The most reasonable explanation of the pathological condition is that at some remote time the omentum and a knuckle of bowel were caught in the femoral canal. The bowel became partially liberated so that its lumen was not entirely occluded; it was held down in the ring by adhesions, and the omentum was afterwards amputated spontaneously. The contraction of the adhesions formed a band-like constriction of the bowel at the site where it was held down. The attacks of constipation and bowel trouble, which the patient stated he had had frequently, were produced by twisting of the bowel at this point, the flat band acting as the fulcrum. These attacks lasted until the twisted gut was again righted.

Remarks.—An interesting question arises when we consider the pathological condition found. How would we have best dealt with the condition if the patient had consented to an operation early enough? The absence of symptoms of hernia would have determined a median incision in operating. Having found the site of the ob struction, the further steps of the operation would have been decided by the nature of the obstruction, if that could have been clearly defined. If this had been possible, a second incision would have been made over the saphenous opening and the gut liberated. The next step would have been to get rid of the constricted part, either by a lateral anastomosis, or an end to end enterorrhaphy. If the bowel could not have been liberated, then an anastomosis above the site of obstruction, as suggested by Helferich, or making an artificial anus would have been the only recourse. Viewed from any operative standpoint the case would have offered many technical difficulties.

The courtesies of the floor were extended to Dr. Emory Lanphear, who accepted the privilege by discuss ing the cases reported.

Dr. Lanphear considered the first case as illustrating the rule that operative interference for the relief of hernia must be instituted at an early moment if it is to be of any avail, and that the danger lies chiefly in delay and not in the operation itself. In this case patient might have been saved if the measures for relief, instituted by Dr. Meisenbach had been taken several hours earlier. This fact should be thoroughly impressed on the minds of the general practitioners, so that the necessity of calling in surgical aid at an early moment will be properly appreciated.

The end to end anastomosis, as done in this case, was doubtless the correct method of procedure, although it is to be condemned in most cases. The objections are, the character of the opening left in successful cases and the great mortality resulting. While it may give relief in some cases the secondary operation will have to be done sooner or later.

In the speaker's opinion the lateral anastomosis of Abbe can be done almost as quickly as with the Murphy button. It can be done in from ten to twelve minutes with the simple needle and thread, if the operator knows the various steps of the operation and is at all dexterous with his instruments. He had done the operation five or six times on dogs and never required more than ten minutes. There are cases of extreme urgency, however, in which the Murphy button might be used advantageously, as one or two minutes more time might prove fatal.

The greatest interest is in connection with the second case. From a superficial examination one would conclude that there had been an old hydrocele. The omentum very likely projected through the ring, was cut off by a spontaneous amputation, and attached itself to the gut again for nutrition. Then by a process of scar contraction the gut was gradually drawn down and its lumen narrowed, producing a chronic obstruction which became acute by a sudden twist in the bowel.

The case is similar to one operated upon by the speaker together with Dr. Cortier at All Saints Hospital nine months ago. The constricting band came from the internal abdominal ring, and was due, in all probability, to some old inflammatory trouble. There had been a chronic obstruction of the bowel rendered acute by a sudden twist and resulting in perforation of the gut and perforative peritonitis. The pulse was very high and temperature 96°. The work was divided by the two operators and lateral anastomosis with the Murphy button performed, as extreme haste was necessary. In the great hurry the button was not quite closed, and was carried by the patient one hundred and fifteen days before being discharged. This caused great anxiety for a time.

Dr. H. C. Fairbrother inquired whether Dr. Meisenbach considered it injudicious to inject large quantities of water into the bowel for the relief of intestinal obstruction.

Dr. Meisenbach answered that at a certain stage of obstruction this procedure does no good and certainly can do a great deal of harm. Treatment should be instituted in a systematic manner. If the case is seen in its earliest stages fluid injections may be used together

with mild cathartics. If the condition does not yield to this treatment promptly, its continuance would be dangerous and the surgeon should be called in. He should have a thorough knowledge of the abdominal cavity and should make a careful examination of superficial and deep palpation and percussion. It is questionable, however, whether the injected fluids ever reach the affected part, or even go beyond the sigmoid flexure in many instances.

Speaker thought that the end to end anastomosis was very properly being relegated to the past by most surgeons, which is due to the great danger of perforation or gangrene resulting from an interrupted circulation of the mesentery at the site of junction. By the bone plate method this is largely obviated on account of the large expanse of the bowel which overlaps itself.

It usually requires from twenty to twenty-five minutes to do the operation and not five to eight minutes as the books would indicate. Speaker had never seen it done in so short a time.

He had expected to hear some objections made to his method of treating these cases by end to end anastomosis instead of depending upon the formation of an artificial anus and a consequent secondary resection. The reason for accepting the method is the low per cent of mortality accompanying primary resections. There have been collected seventy-one cases of strangulated hernia during the year 1872 73. Of these, fifteen artificial anus operations were done with five recoveries and ten deaths, a mortality of 662.5 per cent. The bowel was returned into the abdomen in nine cases, with five deaths, or 555.9 per cent. Resection was done in forty-seven cases with twenty-two recoveries and twenty-five deaths, a mortality of 559.47 per cent. The results of Ziegler, gained in St. Petersburg, coincide exactly. He tabulated 289 cases of primary resection giving a mortality of 40.15 per cent; and two hundred and eighty-seven cases of resections for correcting artificial anus which gave a mortality of 74.02 per cent. This shows a mortality of 25 per cent greater in secondary resections as compared with primary operation. This increased mortality is doubtless due to infection of the peritoneum from the suppurating wound.

Dr. Senn has recently contributed an article on a new method of bowel resection which might revolutionize the statistics of this operation. His method consists merely in preventing the escape of fecal matter from the bowel by introducing a transverse suture before freeing it from its surrounding attachment to the parietes. He reports two cases successfully treated by this method. It is certainly an advantageous method in many cases, but whether it is applicable to all cases will have to be determined by experimental research.

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Dr. B. Jacobson presented a specimen of "Cystic Ovary and Tube" removed from a patient three days previous. Patient is 22 years old and began menstruation when 17, since which time the function has been very irregular. Pain was very severe, not only during but also between the menstrual epochs. Dilatation of the os uteri was done about one year ago for a supposed stenotic condition, and was followed by an increase in severity of the symptoms. The pain was most severe in the region of the right ovary and was very much aggravated by examination. The ovary itself could not be palpated through the vagina, but was found by rectal examination three inches from the anus. It was prolapsed, enlarged and very tender. Three months' faithful medical treatment yielded no results and patient readily consented to an operation for its removal. The operation was followed by some pain the first day, but since that patient's condition has been very good.

American Public Health Association.

The Twenty-Second Annual Meeting of this Association, held in Montreal, September 25, 26, 27 and 28, 1894. The President, Dr. E. P. Lachapelle, of Montreal, in the Chair. We are indebted for this report to the *Medical Record*.

First Day, Tuesday, September 25—Morning Session.

The Association met in the Hall of the Y. M. C. A., and was called to order at 10 A.M. by the President.

Dr. Robert Craik, of Montreal, reported on behalf of the Local Committee of Arrangements a very attractive programme. He also announced the social features of the meeting. The committee had arranged for trips over the Lachine Rapids and down the St. Lawrence to Grosse Isle.

The reading of papers was next proceeded with.

Hygienic Notes Made on a Journey Through Italy in 1894.

Dr. H. F. Nuttall, of Baltimore, contributed a paper on this subject, which was read by Dr. A. L. Gihon, in the absence of the author. This paper described the sanitary conditions, particularly in reference to water-supply and sewage, of Rome, Naples, Venice, and other Italian cities. In Naples poverty and ignorance provided an easy prey to every epidemic until 1884. But after the cholera epidemic of 1884 the Government resolved to spend one million francs for sanitation. New sources of water-supply were secured, new sewers built, and whole blocks of tenements were torn down and replaced by modern houses. The result has been to impart habits of cleanliness to the people and to greatly reduce the death rate.

The Cart Before the Horse.

Dr. Benjamin Lee, of Philadelphia.—The object of the paper may be briefly embodied in the two following propositions:

1. Copious water-supplies, with the aid of what is known as modern plumbing, constitute a means of distributing fecal pollution over immense areas through

the soil, through subterranean water courses, and in surface streams, and cannot therefore be regarded with unmixed approbation by the sanitarian.

2. The question of drainage and sewerage, whether for individual residences or for communities, should always precede that of water-supply; and no water-closet should ever be allowed to be constructed until provision has been made for the disposition of its effluent in such a manner that it shall not constitute a nuisance prejudicial to the public health.

Observations Upon Sedimentation in Water.

Dr. Wyatt Johnston, of Montreal, read a paper with this title. The amount of settling which takes place in what is called the settling basin of the Montreal Water-works is too small to be seriously considered. The capacity of the basin being only twenty-three million gallons and the daily consumption about eighteen millions, the water really only passes in and out of the basin. In the reservoir the change in the water is also very rapid, although not to the same degree, for similar causes. However, analysis proves that bacteria are far less numerous in the reservoir water than in the settling basin. The melting of snow in the spring has a tendency to increase the number of bacteria in the reservoir water. As to the value of sedimentation from a hygienic point of view, it is much below that of a sand-filter.

The Long Island Water-Basin, Brooklyn Reservoir.

Dr. A. N. Bell, of Brooklyn.—After a lucid description of the basin, the author said that while the waste of streams is enormous, it is nevertheless easy to appreciate, from a knowledge of the conditions of the soil and the wells sunk in it, the inexhaustible adequacy of the Long Island water-basin to supply water sufficient to meet the demands of Brooklyn for all time.

The Water of Our Farm Homesteads.

Dr. Frank T. Shutt, of Ottawa, Canada, contributed a paper on this subject. During the past six years the chemical department of the Dominion experimental farms has examined some hundreds of samples of water from wells on Canadian farms, and the fact has been impressed upon the writer that the evil of polluted water is a lamentably common one throughout the country districts, both in the villages and on the farms. The only method the speaker knew for lessening this evil was by instruction and advice, by first emphasizing the great danger that lies in using water polluted with excreta or drainage from filthy sources, and, second, to teach the people that pure water is as much a necessity for the farm animals as for man. Third, farmers must be cautioned against sinking wells in barnyards, stables, or near the pig-pen or privy.

Sand Filtration of Water, With Especial Reference to Recent Results Obtained at Lawrence.

Mr. George W. Fuller, of Lawrence, Mass., followed with a paper with this title. While the removal of pathogenic bacteria by chemicals, including coagulents and by heat, will forever be directly dependent upon human attention, he ventured to predict that the day will come when a knowledge of filtration among sanitary scientists will be such that filters may be constructed and operated by which water free from objectionable bacteria will be supplied to hundreds and thousands of citizens and require the attention of only a mere handful of men. During the five years preceding the use of the filter at Lawrence, the average annual death-rate from typhoid fever in Lawrence was 1.27 per 1,000 inhabitants. The population of Lawrence is 50,000, and this average is equivalent to 63 actual deaths per year. During the past year there have been 26 deaths from typhoid fever, a reduction of sixty per cent. Furthermore, it has been learned that of the 26 who died 12 were operatives in the mills, each of whom was known to have drunk unfiltered and polluted canal water, which is used in the factories at the sinks for washing. In conclusion, it has been found practicable to protect the consumers of infected water-supply by means of sand filtration.

Some Deductions from Bacteriological Work on the Water of Lake Ontario.

Mr. E. B. Shuttleworth, of Toronto, read a paper with this title. It dealt with the normal bacteriological character of lake water and the depth of water as affecting the number of bacteria, and the author is inclined to think that the number of bacteria is directly influenced by season. He is convinced that in their nature certain micro-organisms multiply most rapidly at certain seasons of the year. He threw out the suggestion that this may have an important bearing in explaining the prevalence of typhoid fever at certain times during the year. This seasonal peculiarity is very well marked in Toronto, when every September shows a sudden increase in the typhoid rate, with a corresponding decline after October. Since May last he had been paying attention to the temperature of tap water, which seems to be related to the development of this disease. He hoped in the future to throw some light on this subject, as the experiments of numerous investigators had shown that it is possible for micro-organisms to exist and multiply enormously in distilled water, or, at all events, containing only the minutest traces of organic matter.

Afternoon Session.

The Pollution of Water-Supplies.

Dr. Charles Smart, of Washington, D. C., Chairman, read the report of the Committee on the Pollution of Water Supplies. The report reviews at length the influence which a polluted water-supply may have had in the recent cholera epidemic in Europe, and upon the spread of typhoid fever on both continents. The efforts to purify water by sand filtration were also reviewed,

wherever made, and the report concludes: "From this brief review of facts and opinions concerning filtration, it will be seen that your committee hesitates to reaffirm its former positive language with regard to the sufficiency of filtration as protection against typhoid fever. Nor, on the other hand, do we regard the testimony as authorizing a formal declaration of opinion in favor of the efficiency of filtration. Our experience in this country is extremely limited, but it is hoped that the success achieved at Lawrence will lead to the filtration of other surface waters, each of which will probably teach an important lesson in connection with bacteriological experiments and with the mortality from typhoid fever before and after the construction of the fiter beds. In view of an unbroken record of typhoid fever in communities that use raw river-water, and an equally unbroken record of lessened typhoid rates following the filtration of such river supplies, your committee considers that in Washington, D. C., special attention should have been given to the improvement of the general supply. This country needs some practical lessons in methods of water purification."

At the conclusion of the report Dr. Gardner, of Lon don, Ontario, offered the following resolution:

Resolved, That in view of the danger to the public health by the sewage contamination of our fresh water lakes, rivers and streams, this Association memorialize the different Federal Governments, as well as the State and Provincial Governments, to pass laws prohibiting the contamination of these water-supplies by sewage from cities, towns and villages, and compel them to provide some means for the treatment and oxidation of this sewage before emptying it into these places.

The resolution was referred to the Executive Committee and subsequently adopted by the Association.

Management of Diphtheria Epidemics in Rural Districts.

Dr. Charles A. Hodgetts, of Toronto, read a paper with this title. The medical officer must exercise a personal supervision not only over his patients but personally superintend the carrying out of all orders, for upon the thoroughness of the work depends to a very large extent the prevention of further outbreaks in the district. He felt the inhabitants of the rural districts should receive more attention from the sanitary authorities than they had heretofore, and some inexpensive system should be adopted for the more efficient and prompt management of epidemics in those portions of our country. Schools should be closed in the district until such time as the inspector has satisfied himself in the manner indicated that the households of the individual scholars thereof are free from diphtheria.

Practical Difficulties of Medical Health Officers and Physicians in Dealing with Suspected Cases of Diphtheria.

Dr. Peter H. Bryce, of Toronto, read a paper with this title. With every advance in our knowledge we find that the practical benefits are often limited by unforeseen difficulties, and that bacteriological results bring into prominence the difficulties which the health officer finds in dealing with cases of sore throat, and which may be summed up as follows:

1. That according to recent investigations made, at least twenty-five per cent of diphtheria cases are not caused by the Loeffler bacillus.

2. That physicians endeavor to hide cases in the supposed interest of the client, and conveniently shield themselves behind the assertion that they could not tell whether the disease was diphtheria or not.

The author drew special attention to the difficulty of differentiating between cases of ordinary sore throat and real diphtheria. It was impossible often to decide that cases were really diphtheria without microscopic examination.

Dr. J. Ed. Laberge, of Montreal, read a paper in French, entitled "Vaccination as a Preventive of Contagious Diseases." The paper was historical, it being largely a review of Pasteur's experiments.

Innocuous Transportation of the Dead.

Dr. J. D. Griffith, of Kansas City, Mo., read a paper with this title. The author said that the age demands a far greater protection to the public health. He was convinced that we owe to the travelling public that greater precautions should be taken in the transportation of the dead body. He cited as evidence of the virulence of a dead body that in a Normandy village, twenty-three years after an epidemic of diphtheria, some of the bodies of those who died of the disease were exhumed and an epidemic at once broke out, first among those who opened the grave, and then spread from those to many others. Other examples were cited. Until the public are educated to the point of the thorough sanitation of cremation, the transportation of dead bodies by the railways is, and always will be, a source of very great danger. The speaker urged that the attention of the different legislative bodies of the country be directed by the Association to a subject of such vital importance. He urged, furthermore, that all railways cut off a small portion of their baggage cars for the transportation of dead bodies. The dead body should be placed in a box lined with zinc, with a door very much after the fashion of a large ice chest. This done, the lives of employes would not be endangered; no broken or open box could become infected, and no odor could escape from the car.

Evening Session.

At this session addresses of welcome were delivered by Dr. Robert Craik, the Lieutenant-Governor of the Province of Quebec (Hon. J. A. Chapleau), the Mayor of Montreal, Hon. L. P. Pelletier, Provincial Secretary and Dr. Gregario Mendizabal, of Mexico, after which the President of the Association delivered his annual address.

The President's Address.

He said the American Public Health Association, since its foundation, now twenty-two years ago, has never ceased to labor for the advancement of sanitary science; for the promotion of measures and organizations that should effect the practical accomplishment of the laws and principles of public hygiene. It has thus realized the brightest hopes and most enthusiastic provisions of its worthy founders, and has extended its benefits and influence over the whole of North America. To-day it embraces the three great countries that form this vast continent—the United States of America, the Republic of Mexico, and the Dominion of Canada—all three working together in brotherly emulation, recognizing no political boundaries, and striving to attain one unique and humane object—the dissemination of all of the knowledge of public hygiene and the development of respect for its decrees. Every year the Association changes its place of meeting, and this for good reasons. The spirit of its founders being to establish a body for the diffusion and popularization of public sanitary science, this object could not be better attained than by extending to its greatest limits the influence of the Association; and for this purpose no surer means could be found than the bringing together of its distinguished members.

President Lachapelle in closing urged the creation by the Government of a new department in their cabinets —that of Public Health.

Second Day, Wednesday, September 26—Morning Session.

The Executive Committee recommended, which was indorsed by the Association, a new committee, to consist of five persons, entitled "Steamship and Steamboat Sanitation."

Dr. E. Gauvreau, of Ste. Foye, Quebec, described in a paper the process followed in his institution—the Vaccine Institude of Ste. Foye—for the culture and collection of vaccine lymph, showing that every care is taken to insure absolute safety to the public using the points.

Restriction and Prevention of Tuberculosis.

Dr. N. E. Wordin, of Bridgeport, Conn., read a paper with this title. He showed that consumption was an infectious or communicable disease and that the principal source of danger of its spreading lay in the sputum ejected by a phthisical patient when it had become dry. The breath of a consumptive contained no bacilli, and was not infectious. If the spread of this disease was to be prevented the sputum must be attacked. Phthisis might be communicated by osculation, and among the hygienic commandments should be one for the syphilitic and the consumptive, "Thou shalt not kiss." He considered that the most practical and the quickest way of restricting the spread of tuberculosis would be to put it on the list of infectious or communicable diseases to be reported to the health officers.

Examination of the Milk-Supply for Tuberculosis in the State of New York.

Dr. F. O. Donahue, of New York City, read a paper with this title. He said that in May, 1892, New York State took a step forward in authorizing its Board of Health to made investigations in reference to the existence of tuberculosis in cattle. The relation of the milk-supply to infant mortality from tuberculosis was insisted upon by all health officers who had made it the subject of systematic observation. That milk and its product will convey tuberculosis had been proven. When it is considered that milk is the principal aliment during childhood, and enters largely into the diet of all classes, it was a highly important question for consideration. Statistics of New York State show that for a period of eight years last past, every eighth death was caused by tuberculosis. The State Board of Health evolved the lesson that tuberculosis existed in the dairy cattle to quite an extent, and that special legislation was necessary to deal with it. It is confidently expected that future legislation in this regard will be enacted carrying with it an appropriation commensurate with the magnitude of the work.

Should the Marriage of Consumptives be Discouraged?

Dr. Paul Paquin, of Missouri, followed with a paper on this subject. He held that the marriage of a consumptive with a healthy person must lead to the infection of the latter, and that the children born of consumptives are always naturally predisposed to tuberculosis. Thus the centers of infection are increased and the danger to society is made much greater. No consumptive should marry, and it is perfectly proper for science to interfere and use all its influence to prevent such marriages.

The Climatic Segregation of Consumptives.

Dr. Henry Sewall, of Denver, read a paper on this subject. He proposed the following plan for the treatment of consumption in its early stages, viz., he would establish at favorable points in Colorado a series of cottage sanatoria. The cottage plan was eminently the best in its adaptation to the character of the climate, the people, and the disease. The efficiency and feasibility of such an institution had already been established in the Adirondack Cottage Sanatorium of New York, which might well serve as a model for extensive development. These sanatoria should be located with careful regard to climatological conditions, purity of water supply, beauty of scenery, and accessibility to railways.

Dr. John T. Nagle, of New York City, in some remarks upon diphtheria, said that the Health Department of New York City had been making strenuous efforts to stamp out diphtheria, and with this end it has instructed the bacteriological division to examine gratuitously the cultures furnished it by physicians who at-

tend suspected cases of diphtheria. He said that Dr. Cyrus Edson has great faith in the antitoxine treatment of diphtheria, and it promises to be one of the most important discoveries of modern medicine, and, so far as could be judged from the data at hand, will afford us a means of not only protecting persons from diphtheria who have been exposed to the disease, but also a certain means for the cure of the disease when cases are subjected to this treatment in the early stages. One of the most important and significant features of the treatment depends upon the absolutely innocuous character of the remedy, it having apparently no influence, either favorable or unfavorable, in health or disease, excepting as to its power of neutralizing the poison of diphtheria.

The afternoon was devoted to pleasure, the members of the Association, many of whom were accompanied by their wives and daughters, taking in the trip which had been arranged down the Lachine Rapids.

Evening Session.

Dr. F. Montizambert, General Superintendent of the Canadian Quarantine, gave an interesting sketch, illustrated by lantern slides, of the quarantine appliances at Grosse Isle. He briefly explained the mode of boarding ocean ships, the examination, disinfection and hospital treatment.

Some Points in the Hygiene of the Young in Schools.

Dr. J. C. Cameron, of Montreal, read a paper with this title. He pointed out that mind and body were dependent upon each other, and consequently for the proper development of the individual the body was to be considered and cared for as well as the mind. He referred to the fact that the physical culture of school children was in too many cases improperly cared for, though in the case of boys, who engaged in out-door sports, the effects were not so marked as in girls, who indulged less in out-door sports and were inclined to be more sedentary. Spinal curvature and pelvic deformity were liable to result from assuming an improper attitude when sitting, standing or walking, and consequently it was of the utmost importance that school children should be taught to sit, stand and walk properly.

Sanitation in Plumbing.

Mr. John Mitchell, President of the National Association of Master Plumbers, New York, read a paper with this title. The speaker advocated a semi-annual inspection of all houses for sanitary measures. The rule that at present appears to be observed, he said, is to wait for crape on the door before asking a question regarding the sanitary arrangements.

Influence of Inebriety on Public Health.

Dr. T. D. Crothers, of Hartford, Conn., read a paper with this title. The facts he wished to make prominent were:

1. The influence of inebriety on public health is of far greater magnitude and more closely associated with the various sanitary problems of the day than is realized at present.

2. Our present conception of the extent, nature and character of inebriety is erroneous and based on theories that are wrong. Our methods of dealing with inebriates are most disastrous and fatal in not only destroying the victim, but perpetuating the evil we seek to lessen.

3. These cases must be recognized as diseased, and be housed in farm colonies, under military care and treatment. They must be organized, employed and placed under hygienic surroundings and made self-supporting.

4. The present duty is careful medical study of these classes and full recognition of their needs and requirements. Public sentiment should be built up to sustain rational means and measures in their treatment.

5. The sanitary problems that confront our civilization are every closely associated with the inebriate class. One of the central sources of peril to public health is inebriety. This is the one fountain-head that must be corrected to break up some of the evils of the present day.

Third Day, Thursday, September 27—Morning Session.

A Journal of the American Public Health Association.

Secretary Watson read a short paper with this title. He urged establishing a quarterly journal in connection with the Association, to replace the annual volume of Transactions. He expressed the belief that the establishment of such a journal would increase the influence and strength of the Association. The matter was referred to the Advisory Council.

Vaccine and Vaccination.

Dr. Ralph Walsh, of Washington, D.C., read the paper. He summarized as follows: So-called cow-pox is simply modified variola. The admixture of glycerine with vaccine lymph will destroy all extraneous bacteria without injury to its peculiar active principles. The admixture of glycerine with vaccine lymph not only does this, but prolongs the activity of the lymph. The selection of lymph and the simple but important operation of vaccination had not received from the profession the attention they deserved. The physician should see that each infant brought under his care is successfully vaccinated during the first year of its life, and again at sixteen, or better, to the point of saturation during infancy. The accumulation of unvaccinated material, and consequently the increased danger of outbreaks of small-pox, are caused by the general practitioner failing to perform his duty at the proper time.

Car Sanitation.

Dr. G. P. Conn, of Concord, N. H., read the report

of the Committee on Car Sanitation, of which he is chairman. The report maintained that the railway companies are very negligent in this respect. The railway car is virtually and for the time being a house on wheels, in which a varying number of people are expected to make their homes for a longer or shorter period, according to the distance which they may be expected to travel. Therefore, like a house, it should be constructed upon sanitary principles, in which ventilation, heating, and such conditions as will allow it to be kept clean are paramount factors in every case. Unless these sanitary principles can be carried out and made permanent, then this house on wheels becomes unwholesome and unhealthy, and the conditions become favorable to disease, or of spreading it should a contagious or infectious malady find a place within its walls. According to investigations it had been found that the atmosphere of the ordinary coach contained from one to six times as much carbonic acid gas as public assembly rooms, such as churches, theaters and public halls.

Prevention of the Spread of Yellow Fever.

Dr. Felix Formento, of New Orleans, read the report of the International Committee on the Prevention of the Spread of Yellow Fever. The report maintained that this plague never originated in Louisiana, but is imported from Cuba, Mexico and Central and South America. It recommended attempts to stamp out the disease in the swampts in those countries and the adoption of thorough sanitary measures in the Southern centers, where the disease is wont to become epidemic. An effort to secure the co operation of the governments of Cuba, Mexico, Brazil and the Central American Republics was recommended.

Dr. N. E. Worden, of Bridgeport, read a paper on "Disposal of Garbage," in which he advocated its de struction in an incinerator.

The Disposal of Garbage and Refuse

The report of the Committee on the Disposal of Garbage and Refuse was presented by Mr. Rudolph Hering, C.E., of New York City. It dealt with the character of city refuse, its collection and removal from a building to the place of disposal, and the several methods in vogue for its disposal.

Colonel W. F. Morse, of New York, dealt briefly with the collection and disposal of the refuse and garbage of large cities, describing what was being done in New York in order to find out the best method of disposing of its refuse and garbage.

Influence of the Climate of Canada on Health.

Dr. W. H. Hingston, of Montreal, read a paper with this title. He touched briefly on the geographical situation and the topography of the country, and then went on to show that after a residence in the country of shorter or longer duration, a change in the constitution could be observed. The high color which flushed the cheeks of some Europeans faded somewhat, and the skin became less soft, the hair became darker and more like the aboriginal type, and the muscles were less prominent. The hot weather did not last long enough to produce any great disturbance of the liver, and the cold was exhilarating. The ratio of mortality in Canada was lower than that of Great Britain, and, with the exception of Malta, is country was the healthiest station of the British arm . Statistics gathered from the States showed that all constitutions were healthier as they approached the Great Northern Lakes.

Afternoon Session.

"The Advisability of Teaching Rules and Principles of Hygiene in the Primary Schools by Means of Object Lessons," was the title of a paper read by Dr. Jesus E. Monjaras, of San Luis Potosi, Mexico.

The Importance of Teaching Hygiene in Elementary Schools.

Dr. S. Gauthier, of Upton, Quebec, followed with a paper on this subject. The speaker held that it was through the teaching of hygiene to the school children that we could eradicate the unfortunate prejudices which directly caused the loss of so many who might have been the strength, glory and pride of our country.

The Hygiene of Vision in Schools.

Dr. T. D. Reed, of Montreal, recommended the introduction into schools of the suggestion of the Anthropometric Committee of the British Association for the Advancement of Science, in order to test the power of vision and color-sense. He also recommended exercises for the development of the power of rapid and accurate observation.

A Few Remarks on School Hygiene.

Dr. T. M. Brennan, of Montreal, read a paper with this title. The points in this paper may be summarized as follows: The rousing of the general public to the necessity of propagating the study of hygiene; the hygienic education of children, whose teachers must be proficient in hygiene. In each school there should be a school commission endowed with power to act. There should be some system of efficient general supervision, and the general co-operative support of local and general Boards of Health and the Board of Public Instruction should be assured.

An Epidemic of One Hundred and Twenty Cases of Paralysis in Children.

Dr. Andrew Macphail, of Montreal, contributed a paper on this subject. The paper contained an account of an epidemic of infantile paralysis which occurred in the State of Vermont during July, August and September, and which the speaker investigated. He first stated that the belief was held that it was an outbreak of cerebro-spinal meningitis, but he showed in a lucid

manner that it was a true myelitis. He quoted the notes of 91 cases out of 120. In some children the paralysis came on without any symptoms, in others there was a preliminary illness of a few days resembling indigestion. He described in detail the fatal cases, of which there were 18, and 42 in which there was permanent paralysis. There were also notes of 6 cases in adults, 3 of which ended fatally. He then referred to the origin of the malady, giving full statistics of temperature, rainfall and humidity, and geological factors. There were, besides, 12 deaths from the same cause among horses, and fowls were likewise affected. In conclusion, he dwelt upon the necessity for having in every State a properly conducted laboratory and a competent staff to deal with such outbreaks, and a Board of Health with authority to investigate epidemics and perform autopsies. The paper had additional interest from the fact that it is the first epidemic of the kind reported in America, and the third which has occurred in any country. The speaker refrained from expressing any views or propounding any theories till the pathological work which he has in hand shall have been completed.

The Advances of Public Health in the City of Montreal.

Dr. L. Laberge, Medical Officer of Health for Montreal, read a paper on this subject. The author outlined the development of the several matters connected with the public health of the city and the legislation by which they were governed, such as milk inspection, meat supply, ice-supply, drainage and public baths. He gave an account of the present state of sanitation in the city, and concluded by showing that during the last twenty years the death rate had been reduced by 12.87 per thousand.

Myopia in Its Relation to School Hygiene.

Dr. A. A. Foucher, of Montreal, presented a chart which illustrated that myopia is more prevalent in the secondary than in the primary schools. In the primary schools of Russia it is fourteen per cent, while in those of Germany, Austria, France, Holland, New Zealand, the United States and Switzerland it is thirteen per cent; Norway, eleven per cent; England, Roumania and Belgium, thirteen per cent. In the secondary schools in Austria it is thirty-eight per cent; Switzerland, thirty-six per cent; Germany, thirty-six per cent; France, thirty six per cent; Russia, thirty-six per cent; Denmark, thirty six per cent. In Italy it is thirty-eight per cent; Sweden, thirty-four, and in England, thirty-eight.

Dr. G. Mendizabal, of Orizaba, Mex., gave some "Observations on Yellow Fever in Vera Cruz, and Its Prevention," and he was followed by Dr. J. I. Desroches, editor of the *Journal d' Hygiene Populaire*, and member of the Board of Health of the Province of Quebec, who discoursed on hygiene in medical education.

Nomenclature of Diseases and Forms of Statistics.

The day's session closed with the reading of the report of the Committee on Nomenclature of Diseases and Forms of Statistics, by Dr. S. W. Abbott, of Boston, Chairman. The Committee considered changes in the nomenclature and classification of diseases and causes of death; uniform methods of reporting vital statistics; uniform methods of estimating population and death-rates, and the adoption of a standard of age distribution. It is quite plain that a fair comparison cannot be made of the death-rates of countries, cities and towns in which the age distribution is widely different; hence the importance of adopting some conventional standard to which all populations may be referred, or with which they may be compared.

Fourth Day, Friday, September 28—Morning Session.

A Plea for Vaccination.

Dr. M. T. Brennan, of Montreal, Can., said vaccination should be performed with all the precautions calculated to insure the action of the pure lymph, free from all contamination and the action of it. Each vaccinator should be provided with:

1. Pure lymph of a standard strength, if possible.
2. A vial of distilled or boiled water to dilute the lymph.
3. A vial containing a solution of bichloride of mercury.
4. A small alcohol lamp to sterilize the lancet, etc.
5. Some sterilized absorbent cotton.
6. Some sterilized gauze.

All these take up but a small space, and may be placed in a small satchel or metallic case. The operation should be done under strict antiseptic precautions; all instruments, dressings, hands of the operator, etc., should be clean.

Infection by the Bacillus Pyocyaneus as a Cause of Infant Mortality.

Dr. H. Cameron, of Montreal, read a paper on this subject. It was not until 1889 that this bacillus was found to produce definite general infection in young children. The author drew the following conclusions:

1. That the infant tissues are susceptible to the invasion of this bacillus.
2. That the bacillus is distinctly pathogenic, setting up a disease peculiar to experimental pyocyanic disease.
3. That this disease is characterized by a train of very definite symptoms, such as diarrhea, fever, rapid emaciation, rigidity of the legs, and hemorrhagic and bullous eruptions.
4. That the disease appears to be very fatal.

As this combination of symptoms occurs not infrequently in young children, especially when congregated in nurseries and foundling asylums, the author ventured to infer that a certain proportion of the deaths which now appear upon our records of vital statistics under the headings of gastro-enteritis, purpura or marasmus,

were in reality cases of generalized pyocyanic disease.

As to prophylaxis he had nothing definite to offer at present beyond a strict observance of the laws of hygiene, fresh air, suitable nourishment, and cleanliness; but he is inclined to consider that this disease is one eminently suited for a trial of "serum therapeutics." It is a disease in which, experimentally, immunity can be easily produced in susceptible animals. This being so, it is probable that the serum of animals vaccinated against this disease, or substances obtained from such serum, will be found, as in the case of diphtheria, to have curative effects.

The closing paper of the Convention was read by Mr. J. W. Hughes, of Montreal. It was entitled "Evolutionary Developments of Domestic Plumbing During the Past Twenty-Five Years."

Several papers were read by title, owing to the absence of the authors.

The following resolutions were offered by C. O. Probst, of Columbus, O., referred to the Executive Committee, and adopted by the Association:

Resolved, That this Association approves the suggestion for a co-operative investigation into the bacteriology of water, and commends the efforts of the Committee, in carrying out this work, to the officers of State and Municipal Boards of Health, to the individual members of this Association, and to all persons interested in the purity of water-supplies for such special assistance as they may be able to render.

By Dr. E. R. Campbell, of Bellows Falls, Vt:

Resolved, This this Association records its protest against the use of alcoholic liquor as a beverage, espe cially among the young, believing that such use is attended with great danger to the health, the individual and society.

The Executive Committee failed to act on this reso lution.

By Dr. George Homan, of St. Louis:

WHEREAS, It is the sense of this Association that the pollution of potable waters in America has reached such a point that the National Government should be asked to take cognizance of the matter with the view of devising means of prevention and relief; therefore be it

Resolved, That this Association memorialize the Congress of the United States and ask that they shall authorize the appointment of a competent commission, clothed with power to fully investigate the whole subject of the pollution of rivers and lakes by municipal and manufacturing waste, and provided with sufficient means to enable them to conduct the examination in such a manner as shall be deemed best, the results of said examination to be published from time to time for the public information.

The following officers were elected for the ensuing year:

President—Dr. William Bailey, of Louisville, Ky.

First Vice President—Dr. G. B. Conn, Concord, N H.

Second Vice-President—Dr. G. Mendizabal, of Orizaba, Mexico.

Secretary—Dr. Irving A. Watson, of Concord, N. H.

Treasurer—Dr. Henry D. Holton, of Brattleboro', Vt.

After a resolution of thanks, offered by Dr. A. L. Gihon, of Washington, D. C., the Association adjourned to meet in Denver, Colo., at a time to be fixed by the Executive Committee.

ABSTRACTS

MEDICINE.

Some Special Therapeutic Uses of Cannabis Indica.—Cannabis Indica, according to the author's opinion, is less frequently employed than it deserves. His experience has proved this medicament to be particularly efficient as an analgesic in combating pain associated with spasmodic phenomena; it seems to exert a favorable influence in all the forms of cephalalgia, the author alluding, in particular, to violent cephalalgia occasioned by cerebral tumors. He recommends its use also especially in chronic uremia, where the employment of morphine is believed by many to be contra-indicated.

But where he has found the remedy to be well-nigh a specific is in the more or less continuous form of cephalalgia. The type in question commences at the patient's awakening, and lasts the whole day; it may disappear toward evening, but if the patient happens to get up during the night, he will feel the trouble again. The pain is generally diffuse, extending over the whole head; this dull pain will at times grow intense for moments, and it may persist for weeks, months, and even years. Without being violent enough to interfere with occupations not requiring considerable intellectual effort, it constitutes a constant source of discomfort and seriously annoys the patient. It is observed in both sexes, and oftenest in youth and middle age.

This form of cephalalgia is almost always curable, it is stated, by the use of cannabis indica, alone or associated with other medicaments destined to combat concomitant disturbances. The author generally uses it in the form of an extract, administering this at first in the dose of ½–3 centigrammes ($^1/_{12}$–$^1/_2$ grn.) in pills, evenings and mornings. If these doses prove insufficient, he prescribes 6 centigrammes (1 grn.) in the evening, and 3 centigrammes (½ grn.) in the morning. In particularly obstinate cases, he increases the dose (always giving the stronger dose in the evening) until a marked relief is obtained, or symptoms of intoxication appear.

In one of the two successive cases which are described at length, the author associated the extract of cannabis indica with gentian and cinchona, in the other with caffeine hydrobromate.

Cannabis indica is, furthermore, considered one of the

best remedies in neuralgia, acting well also in the pain of tabes; and in gastralgia and enteralgia, it is said to be more or less successful.

In skin diseases accompanied with intense pruritus, where local sedatives are inefficient, the author resorts to cannabis, which, he says, is particularly useful in cases of senile pruritus. Only after the cannabis fails does he give chloral. It should be given preferably at bed time, pruritus being more intense and painful, as a rule, during the night; in severe cases, however, the remedy may be given during the day. In cutaneous diseases, the author prefers its application in the form of tincture, 20 drops of which correspond to 6 centigrammes (1 grn.) of the extract; 5–6 drops may be taken on a piece of sugar, and repeated as often as necessary.

The author has rarely observed untoward effects from this medicament; symptoms of intoxication were only very exceptional.

Nevertheless, to avoid any possible disagreeable effects, it is advised always to commence with small doses, and to increase them slowly, whereby toleration will be established.—Dr. S. Mackenzie in *Sem. Med.; Am. Med.-Surg. Bull.*

The Detection of Sugar in Urine.—For many years investigators have claimed and others have denied the existence of a small quantity of sugar in normal human urine. The author proved to his own satisfaction the presence of sugar in some specimens of urine from persons apparently in perfect health—this was done by the production of the crystalline phenyl-glucosazone. On slight provocation sugar may appear in the urine, although by no means constantly present.

To say that the presence of sugar proves the abnormality of the urine is begging the question. Both Sir George Johnson and his son have a strong negative opinion of the existence of sugar in normal urine. This opinion results from examinations of urine freed from uric acid and kreatinine by mercuric chloride. As performed by these investigators, the removal of the excess of the mercuric chloride with ammonia is very difficult. Unless this excess is perfectly removed, the estimation of sugar by titration with Pavy's copper solution is impossible or inaccurate. It is preferable to remove the excess of the mercuric chloride by boiling for a few minutes with zinc dust and then filtering; to the filtrate add ammonia in excess to keep the zinc in solution. This method does not affect the subsequent estimation of the quantity of sugar.

In every sample of apparently healthy urine examined by the author by the mercuric chloride process, sugar in small amounts has been indicated by the Pavy titration. This does not give absolute proof of the presence of sugar; but the same sample, giving these indications of sugar, yielded crystals of glucosazone by the phenylhydrazine test.

The presence of kreatinine in normal urine causes a red coloration with an alkalinized picric acid solution; it is for that reason that picric acid, valuable in typical diabetic urine, is useless as a test for traces of sugar in healthy persons, unless the kreatinine be previously removed. Kreatinine gives no indication of its presence to the casual observer.

The amount of kreatinine normally excreted in 24 hours is variously stated. Taking G. Johnson's figures, grn. xxx., together with his statement that it has a copper-reducing power equal to about grn. xxv. of sugar, it follows that normal urine has a copper-reducing power of 0.5 grain per ounce; and, as the amount of kreatinine excreted varies with a more or less nitrogenous diet, it might reach even larger proportions. It is, therefore, not right to test urine for traces of sugar with picric acid in the presence of kreatinine. The kreatinine should be removed by the mercuric chloride treatment, and the excess of mercury removed by boiling with zinc dust as mentioned above. The presence of sugar should then be tested for in the filtrate. The filtered liquid can be examined for sugar by Pavy's volumetric copper process or the colorimetric method with picric acid of Sir George Johnson.—Alfred A. Allen in the *Lancet; Am. Medico-Surgical Bulletin*

Diagnosis of Atypical Cases of Typhoid Fever.—Although as a general rule the diagnosis of typhoid fever is not difficult, there are cases in which rarer symptoms develop, where single symptoms are more pronounced, or where complications result. In cases where the disease only lasts a short time, eight to ten days, and the patient is only seen at the end of the disease, it may be difficult to determine whether we have to deal with a real case of typhoid fever, since there may be no other symptoms than a continuous fever. In some cases, typhoid runs a mild course, the patient being able to go about his business, the so-called typhus ambulatorius; these cases are, however, no less dangerous than the others, since intestinal perforation may easily take place.

In regular cases, the fever arises progressively, obtaining its maximxm between the seventh and ninth days. Sometimes the temperature may remain normal during the whole course of the attack, or not range above 100° F., and Potain saw one case in which the temperature was below normal during the whole first and second weeks, and only reached the normal during convalescence. This strange fact is probably due to the Eberth bacillus occasionally producing hypothermic substances; if these substances, under the influence of unknown conditions, are produced in large quantity, the disease will run apyretically.

The other symptoms also may be only moderately pronounced or absent altogether. In the first place there may be no distension of the abdomen, and even the fecal discharges may not be different from the normal. During the first week there may be constipation, during the second week occasional discharges, although slight diarrheas are only rarely absent even in such cases. Pain and gurgling in the right iliac fossa are

characteristic symptoms, usually present from the first day of the disease; this will present difficulties in regard to the diagnosis in such cases where typhoid fever is associated with typhlitis. The absolutely characteristic small spots on the abdomen may be entirely absent. Almost all the other symptoms are not constant. Eberth's bacillus, when present, is characteristic, but cannot always be found.

Symptoms of ataxia and muscular weakness may cause a diagnosis of meningitis. In other cases of typhoid there may be delirium, spasms, pupillary changes, strabismus, even trismus and stiffness of the neck. In such cases the two symptoms of stupor and enlargement of the spleen will lead to the correct diagnosis. Cases of typhoid without enlargement of the spleen do not exist, and wherever this symptom is absent there is no typhoid, though it must not be forgotten that the spleen may become enlarged in other diseases.

Among the complications of typhoid, different exanthemata, such as those of scarlet fever or measles, may be present; on the other hand erythema multiforme may be accompanied by symptoms resembling typhoid. Otitis may be another complication, as also pneumonia, pleurisy and diphtheria. The existence of tuberculosis with typhoid fever is, however, extremely rare.—Potain in the *Internat. k. Rundschau; Am. Med.-Surg. Bull.*

Some of the Uses and Abuses of the Nitrites.—The nitrites are a group of remedies which includes the nitrites of sodium, potassium and nitro-glycerin, or glonoin, as it is now named in the new Pharmacopeia.

They are a somewhat important class of remedies, being prompt in action, but of short duration, and demanding their frequent administration to maintain continued effects.

In order to have an intelligent understanding of their therapeutic uses, it is necessary to know something of their physiological action; and while clinical experience may be the touch-stone which solves the mystery of remedial agents, a good knowledge of pharmaco dynamics will often restrain or prevent the employment of remedies whose administration would prove prejudicial to recovery. When taken they cause a sense of cerebral fulness, flushed face, pain in the head, rapid heart-beat, and lowered blood-pressure. The rapidity of heart-beat is caused by their depressant action on the inhibitory branches of the vagus, and to the sudden relaxation of the terminal arterioles in front from vaso-motor paralysis. The flushed face is caused by the dilatation of the capillaries, and the lowered blood-pressure to the lessened resistance in front. It may be accepted as a fact, to which there are but few exceptions, that when there is very little resistance in front—that is, lowered blood-pressure—the heart endeavors to make up or compensate the loss by increasing the number of its contractions, and when we employ an agent like the nitrites, which also paralyzes the inhibitory center, the number of heart-beats is greatly increased.

On the nervous system their action is not so marked, but they take rank as sedatives or depressants, confined to the motor tract of the cord. In the blood they transform hemoglobin to methemoglobin, and thus lessen or destroy the oxygen-carrying function of the corpuscles. The blood becomes venous and of a chocolate color, with consequent lowering of the body temperature, due to decrease of oxidation and increased radiation of heat from the dilated capillaries.

The diseases in which the nitrites have been found beneficial are those of a spasmodic nature, whether local or general, such as whooping-cough, spasmodic cough, hystero epilepsy and convulsions of children. Hystero-epilepsy and simple hysteria he has found yield to a single dose of glonoin. In interstitial nephritis the nitrites, especially the glonoin in combination with digitalis, are useful. In this disease we have heightened blood-pressure, owing to spasm or constriction of the terminal arterioles, and an hypertrophied left ventricle, a condition of affairs which, if not cured, is relieved by the nitrites. Death from croupous pneumonia always comes from cardiac failure. When there is impending failure of the right heart from over-distention, the nitrites, by dilating the arterioles, thereby diminishing the work which the heart has to do and causing an equilibrium in the distribution of the blood, have been found of benefit, particularly if employed on the first appearance of the engorgement.

Migraine, when there is a spastic or constricted condition of the cerebral vessels, is sometimes relieved by their administration. Other conditions of acute cerebral anemia are also rapidly relieved by them, such as syncope and anemic epilepsy.

Many other similar conditions which will suggest themselves were greatly benefited by the use of the nitrites. Cardiac dyspnea, attended by high arterial tension, will be greatly relieved by their employment. The pain due to aneurismal pressure is sometimes alleviated by them. Generally, if they will do good in a certain case, their action is prompt.

The contraindications are important.

We find the surface pale and cold in shock, the heart beating feebly and often the beat greatly increased in frequency, complete muscular relaxation, and depression of all the vital functions. The pale, cold surface is caused by the paralysis of the vaso-motor system and by the recession of the blood to the muscles and abdominal viscera. Now, why, in such a condition, should such paralyzing and depressing agents as the nitrites be given, except we believe in the law of similars? Is it prudent or good therapeutics in such a case to give a remedy whose chief action is to still further depress that weak heart, to still more paralyze the vaso-motor system with which the integrity of the circulation and blood-pressure is in such intimate connection and relation? The author firmly delieves this procedure to be wrong.

During the past year two eminent men have died in this country, and the public press informed us that when

they were in extremis, "nitro-glycerin, a powerful heart stimulant," was given to brace up the flagging heart and prolong their lives. Let us investigate this statement and see if we can elicit the distinguishing characteristics of heart stimulants. We find they cause (*a*) increase in the number of heart-beats, (*b*) rise in the blood-pressure, (*c*) increase of blood in the cerebral arteries. Do we find such to be the specific action of the nitrites on the circulatory system? No, except that the heart-beats are greatly increased in frequency, caused by paralysis of the inhibitory nerve, and the dilatation of the peripheral vessels from relaxation of their muscular coats through vaso-motor paralysis. Consequently there is a loss of resistance in front which immediately results in a great fall in blood-pressure, and the resultant action serves only to intensify the already existing state of cardiac insufficiency and adynamia.

If the physiological action of a remedy is to serve as a guide for its intelligent administration in disease, it is difficult to understand why the nitrites are given in cases of genuine intrinsic cardiac failure.

"A perfect circulation" is one which empties the veins and fills the arteries—the very antithesis of the condition produced by the use of the nitrites. Its employment, therefore, in essential cardiac adynemia is one fraught with great danger. In threatened heart failure from alcoholism, and when it has actually taken place from chloroform or ether, he believes the administration of the nitrites to be prejudicial to recovery, as their dominant action is to weaken the pulse and lower the arterial tension.—James Newell, M.D., *Canada Lancet; Therapeutic Gazette.*

NOTES AND ITEMS

Dr. Beaven Rake, Port of Spain, Trinidad, Superintendent of Leper Asylum and best living authority on that disease, died of yellow fever August 25, 1894, at the age of 36 years. He was chief of English Leprosy Investigating Committee sent to India in 1891.

Professor Billroth's Widow.—The Emperor of Austria has granted to the widow of the late Professor Billroth a yearly pension of 2,000 florins. This is to be interpreted as a mark of special favor, because according to the law of Austria the pension allowed to widows of professors is only 600 florins. The distinguished surgeon is understood to have left little or no private fortune.—*Med. Record.*

Influence of Occupation Upon Mortality Statistics.—In every thousand deaths from all causes in farmers 103 are due to pulmonary tuberculosis; in fishermen, 108; in gardeners, 121; in agricultural laborers, 122, and in grocers, 167; while in tailors the number reaches 290; in drapers, 301; in printers and compositors, 461, or nearly 50 per cent. Among the Cornish miners the number is said to exceed 60 per cent. In prisons and other public institutions where insufficient ventilation and exercise, lack of variety in food and overcrowding are combined with infection of the apartments the death rate from tuberculosis ranges between 40 and 50 per cent.

Bed Bugs as a Source of Infection.—According to Dewevre tuberculosis occurred in a young man occupying the bed of his brother who had previously died of this disease, but in a room thoroughly disinfected, the inefficiency of the disinfection was explained when an inspection of the corpse showed that it was covered with the bites of bed bugs, and that his bed, which had escaped disinfection, was filled with these animals. Thirty of the bugs were gathered and inoculated in three guinea pigs, which soon died of tuberculosis; sixty per cent of the bugs were found to be tuberculous. In another series of experiments the bed bugs were placed in contact with sputum, and some weeks afterward virulent cultures were obtained from them.

Oliver Wendell Holmes, a Microscopist.—Forty one years ago Dr. Holmes, who was 85 years old on August 29, 1894, taught Dr. E. Cutter how to use the microscope with direct illumination. He had an arrangement of his own—a six inch black disc fastened to the tube and graduated so that turning the disc would act as a fine adjustment. Dr. Cutter says that Dr. Holmes worked a good deal with the microscope in those days and that the intellectual drill derived therefrom may have been used in literature. Is not the technical use of the microscope in college as good a discipline as the study of Greek? Surely the cyclops of the Odyssey would be better understood by one who has studied a living cyclops taken from a hydrant and shown under the microscope.—*The American Monthly Microscopical Journal.*

Good Advice.—Dr. Laura Liebhardt, in discussing before the Colorado State Medical Society the question of bicycle exercise for women, declared that "the majority ride with the saddle too low," and that this is responsible for cramping of the chest, straining the back, and impeding full action of the muscles of the leg. There results a constant tension of the muscles above the knee, which gives a short, awkward stroke, as the reach is too short. The seat should be amply high for the entire leg to be extended, and give to these muscles a second of relaxation on the downward stroke of the pedal. The knee must have perfect freedom, and in this respect a woman finds herself particularly handicapped, as she is unable to make the entire stroke with the action of the knee limited by a dress skirt. In Paris they do not stop with the unsightly bloomers, but have almost universally adopted the practical, yet far too

radical, knickerbockers. This striking costume attracts but a passing notice, for the *rationale* of it all appeals to the French mind; but as we have fortunately not yet reached the Parisian standard, it is to be hoped that knickerbockers will confine themselves to spins in the mountains. Wheelwomen also subject themselves to needless jars by jumping instead of gliding from the wheel. They should be taught to mount and dismount from either side as men are wont to do. Corsets on the wheel, as elsewhere, should be denounced in the strongest terms, although nearly one-half of all wheelwomen tie up their muscles in this barbaric fashion. Many condemn cycling on the ground that the movements are identical with those called forth in running a sewing machine. Machine running stimulates more the faulty way of wheeling, and the position is almost identical with that assumed when the handle-bars and saddle are placed too high. In wheeling there are a greater variety of movements and less tension. Two-thirds of all women who ride wheels foolishly incur great risks by riding during certain periods, even to the extent of hill climbing, when they should never mount a wheel, except for short distances, during the first two days. During the discussion the general opinion seemed to be that the saddles in use were hardly proper. The long, wide saddle suspended between springs was considered very much superior to the rigid or hard models. A saddle much wider throughout was considered desirable, and cases were quoted to substantiate this claim.—*The Woman's Medical Journal.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Experiments Upon the Superior Laryngeal Nerve.

H. Moller, gave as the results of two experiments up on the superior luryngeal nerve of horses, that after section of this nerve before its entrance into the larynx, all the muscles of the larynx on the side upon which section of the nerve was made were found in a state of pronounced atrophy, and he concluded therefrom that in the superior laryngeal nerve trophic fibres were to be found. The horses had lived one-and-a-half and four-and a half months respectively. Following him laterly S. Exner, performed the similar experiment on a horse with excision of a piece of the nerve about five centimeters long. He found after one-and-a-half months a visible atrophy of the crico-arytenoid muscle on the side of the excision, and like Moller an atrophy with a yellow coloration of the muscles on the same side. He thinks the atrophy can be explained in the following way: By the removal of the sensory nerves of the larynx disappears the impulses and resentments of movement, and hence the movement itself is diminished. The degenerations therefore found by Moller and himself occurring after excision of the superior laryngeal nerve of the horse are to be considered as atrophies of inactivity, I must remark that the information of Exner relative to the extension of the atrophy of the larynx muscles in Rabbits in Col. 1888, No. 24 and 1889, No. 6, differ.

The author cut a superior laryngeal nerve and resected a piece one and a half inches long near its entrance to the thyroid cartilage, on horses which then lived three and a quarter and three and three quarter months respectively. At the autopsy it was proved each time that the nerve was resected in the intended manner, and the whole group of muscles on the operated as well as upon the side not operated on were found in an entirely normal state. Any atrophy of the group of muscles or yellow coloration of the same was not to be found. Neither has Dr. Breisaeher seen when making experiments upon dogs and rabbits after resection of the superior laryngeal nerve any degenerations of the laryngeal muscles supplied by the superior inferior nerve. Consequently there is no reason to suppose that there exist trophic fibres in the superior laryngeal nerve as Moller supposed, or atrophy of inactivity due to the want of impulses of movement, etc., as Exner, which would cause roaring in the horse.—Translated by L Breisacher, V.M.D., from *Centralblatt f. d. Med. Wissenshaften.*

Echinococcus Cysts in the Liver and Lungs of a Horse.

Believing that the presence of these larvæ in the horse are comparatively rare, I venture to record a case which came recently under my notice.

I was called, in the absence of Mr. G. T. Pinkney to see an aged cart-horse, whom the man reported to be suffering from a bad attack of colic. On my arrival I found the animal had all the symptoms of acute peritonitis, due I surmised to a rupture at some portion of the alimentary tract. The prognosis was unfavorable, but nevertheless I exhibited opium to arrest peristalsis and prescribed hot fomentations to the abdomen. When called an hour later I was in time for a post-mortem.

The time which elapsed between the first manifestations of disorder and the animal's death was about six hours.

Autopsy revealed the usual lesions found after death from peritonitis. The whole surface of the peritoneum

was conjested and discolored and the intestines contained a large quantity of watery coffee-colored fluid, due to passive conjestion. The stomach, which was full of dry ingesta, was rent along its greater curvature to the extent of about six inches and the pyloris was considerably tumefied. That the rupture was *auto-mortem* was manifest by the attenuation and conjestion of the gastric walls.

On examining the liver I found ten or twelve cysts, varying in size from a small to a large fowl's egg, and containing to the extent of their capacity a watery transparent fluid in which there appeared a reddish granular sediment. In the lungs the same lesions were apparent, both organs being otherwise healthy.

I recognized the cysts as those of the echinococcus veterinerum often seen in the organs of the ox and sheep and on inspection Mr. Pinkney supported my views.—By Fitzpatrick Eassie, M.R.C.V.S., in *Veterinary Journal.*

Parasites of the Eye.

Experiments made by Dr. P. Willach upon the eye with especial reference to the periodic ophthalmia (moon blindness) of the horse, gave results which seem to justify the conclusions that certain diseases, including periodic ophthalmia, owed their origin to the influence of vegetable micro-organisms. These parasites—the trematodes, (distimali), platodes (cysticerci) or nematodes (rhabdite filarie) being usually revealed under the microscope in the pathologically altered parts, thus causing, as a rule, the inflammation of the internal parts of the eye. Just how these parasites gain entrance into the system is not known, possibly through the food or water or come from the pasture. The infection may take place through the dam whether her eyes are affected or not, but it may be said of ophthalmia that this affection is not inherited from the stallion. It is probable that in most cases of advanced chronic alteration that the parasites, even when these have disappeared, were the primary cause of the trouble.—*Archiv. f. Wiss. a. Prach. Mierheil Kunde.*

Foreign Bodies in the Esophagus of Bovines.

On two occasions when attempting the removal of foreign bodies from the superior portion of the esophagus of the cow the animal expired suddenly without any warning or difficulty of breathing. The obstruction could just be reached with the fingers and the left hand was in the esophagus while the right pressed upward the foreign body. Now, when I fail to readily remove the foreign body through the mouth, it is my practice to cut down on the esophagus, raise it from its bed and after introducing a little oil orally, to press the offending substance upward. The operation is easy, devoid of risk, and does away with the bruising of the parts, and the arm of the surgeon which usually follow prolonged efforts at oral extraction.—Thos. B. Rodgers in *Jou. Comp. Med. and Vet Archives.*

Division of the Cunean Branch of the Flexor of the Metatarsus for Spavin.

On two occassions this operation has been followed in my practice by enormous increase of the bony growth, and no amelioration of the lameness. In cases where, after firing and rest, there was remaining lameness, the operation has been entirely successful. I believe the place of this operation is as an adjuvant to the classical treatment, but as my experience is yet limited should be glad to hear the experience of others.—Thos. B. Rodgers, in *Jour. Comp. Med. and Vet. Archives.*

Tuberculosis in Carnivorous Animals.—Eberth found tuberculosis in eleven out of 400 dogs, and only one in 100 cows. An examination was made in every case for tubercle bacilli. The lung was affected in nine of the eleven dogs. Tuberculosis in the dog and cat appears to be less frequent in Germany than in Denmark.

Among the many curious relics of Dr. Jenner which are now on exhibition in London are a few hairs from the tail of the first cow from which virus was obtained for vaccine purposes.

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SAMPLE OF HOW ALL TALK.—J. C. Emmons, M.D., says: When I saw the cut I thought it probably overdrawn, but find the bags even more handsome than the figure; the inside is perfection realized. Convenience is so pronounced that I would not use any other make if furnished gratis. Permit me to congratulate you in placing before the medical profession the most perfect case-bag in its every feature that the market affords. I wish you complete success which your genius merits.

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ORIGINAL ARTICLES

The Psychic Factor in Appendicitis.

BY EDWIN A. DOWN, M.D., HARTFORD, CONN.

Read before the Virginia State Medical Society, October 24, 1894.

Scientific theories, unlike the law of the Medes and Persians, possess the charm of versatility; sometimes to a marked degree; and in no department of learning is this statement more applicable than that pertaining to the science of medicine and surgery.

Nature plays fickle with us by providing a mental mechanism which she guarantees in perfect order, as we believe, and then leaves us to discover that the products of this mechanism in the form of judgment and reasoning are, many times, only so much material employed in her burlesquing

But while Nature is thus deceiving, she occasionally allows one of our number the privilege of invading her secret apartments and bringing away important information concerning her latent operations.

The department of pathology has been singularly blessed in this way during recent years, and one of the significant results has been a complete revolution in the treatment of the malady which forms the topic for our consideration to-day.

The psychic factor in appendicitis, as I shall present it to you to-day, has reference to its operation through the sympathetic system whose intimate relation with the central nervous system is clearly proven. I shall speak, also, of the exhibition of the psychic factor in another sense. In the first place, as it occurs to those whose enthusiastic ardor transcends the limits of ordinary care and prudence; and again concerning others whose pronounced conservatism appears almost irrational in the light of modern pathology. Lastly, the mental attitude of the public will receive some consideration in order to make our review as complete as possible.

In the appendix we have a mere off-shoot from the intestine which subserves no particular purpose in the economy, and whose principal function appears to be one of congestion. Destitute of muscular fibers, it has no movements of its own to maintain a healthy action and thus protect it against the invasion of disease germs, and like all tissues that are inactive, it is more susceptible to pathological invasion either in the line of atrophic changes or inflammatory processes.

When we reflect upon the close relation existing between mental conditions and somatic states, we cannot justify ourselves in opposing, altogether, the theory that some disorders, whose origin has been indefinite, can be referred to perverted mental action.

The reciprocal relation existing between the two nervous systems is evident from every-day observation. For example: muscular tension when the emotion of fear is present; the alteration of the secretions in conditions of depression; interference with the heart's action; and disturbances connected with digestion due to unpleasant sights or odors.

One of the offices of the sympathetic nerve is its vasomotor function.

Physiology teaches us that when the sympathetic nerve is cut there is a dilatation of the vessels of the part to which the nerve is distributed. Stimulation of the distal portion brings its vaso constrictor properties into play for a longer or shorter period; but if the stimulation is protracted, the vaso-dilators predominate and we have a condition simulating the initial step in an inflammatory process.

The association of the cerebrum and the abdominal brain having been conceded, it would seem to be a fair assumption that mental states do modify the physiological actions of the tissues.

One author believes that "a state of mind or feeling continually acting upon the body will, usually, in the course of time, induce a characteristic change or effect upon the individual's form, gait or expression." And the dictum of John Hunter that, "There is not a natural action in the body, whether voluntary or involuntary, that may not be influenced by the peculiar state of the mind at the time," may with propriety be inserted here.

Dr Van Norden relates a case which illustrates this point to a nicety. "A woman saw a child caught in a gate; and she believed for a moment that its ankle had been crushed. So deeply did sympathy cut that one of her ankles swelled and reddened."

Here we have an instance of an emotional condition passing beyond the limits of ordinary intensity, and so

modifying physiological processes as to produce a pathological condition. The case being authentic must be allowed proper credence.

From the foregoing the natural corrollary is that special emotions and bodily functions may be associated; and a change from the normal in the former may modify or inhibit the latter.

In the classification of the insane states we have what are known as sympathetic insanities. This implies some visceral disturbance which is reflected upon the brain through the sympathetic system; changes in the emotions being at once instituted. These are generally depressive in character, and treatment directed to perverted action of the abdominal viscera in the course adopted in most instances where no objective symptoms are present. But the deduction is not a reasonable one and I shall show by statistics that appendicitis is not the result of unstable mentality nor necessarily associated with faulty cerebration.

The apology for presenting this aspect of the subject has been undertaken for the purpose of answering those who incline to the principles of mental healing, as well as those who are disposed to consider appendicitis idiopathic disease to be accounted for by perversion in neural functions.

While considering the next division of my subject it must not be understood that I am making any attempt to outline the various processes of judgment and reasoning essential for a correct diagnosis, or deftness in operative procedure. My purpose is to show that there is a tendency toward overenthusiasm when anything novel in our science comes up, and that the need of cultivating the mental inhibitions as safeguards to the dignity of the profession as well as for the safety of our patients requires emphasizing at this particular juncture.

For the past two or three years surgical literature has been teeming with accounts of appendicitis and its treatment.

In one journal Dr. A. reports ten cases coming under his observation. In another Dr. B. must have twenty; and Dr. C. looks up material in order to have thirty cases to report and incidentally place himself in a position to render his statements more authoritative than those of Dr. A. or Dr. B.

The tendency in this country is to "boom" things, and the propensity appears to be gaining foothold among the members of the medical profession.

It requires no effort of memory to recall the claims made for the substance tuberculin which was to do away with the greatest scourge of our country. Preparations were made in physicians' offices and in hospitals for the introduction of this wonderful material into the tissues of tuberculous subjects.

Surgeons vied with one another in their efforts to bring to public notice the fact that they were the first in their own cities or communities to inoculate subjects with this mysterious principle, the remarkable part of the whole proceeding being the utter ignorance of the inoculators regarding the composition or chemical character of the substance employed.

With such precedents as this, it is not a matter for surprise that the younger members of the profession are willing—yes, eager—to assume responsibilities which many of our seniors would show some hesitancy in accepting, the temptation to become suddenly popular so overshadowing the necessity for the greatest care and circumspection in diagnosis as to lead to many needless operations.

Such sentiments may seem almost heretical to the progressive surgeon, and the writer may appear to have cultivated a spirit of opposition to the opinions of those whose superior judgment and acknowledged ability in operative skill merit the highest consideration from the profession at large.

That the converse of this proposition is true, I can assure you by stating that I regard the researches of Fitz one of the greatest events in the history of modern surgery; and it is my firm belief that an early operation is the only rational treatment when unmistakable evidences of appendicitis are present.

All honor to Fitz for his gift to the profession and to the world at large; and may his memory be sacred to us as well as to our descendents of whom many shall rise up and call him blessed.

It has been said that appendicitis is a disease of the wealthy; which means that in many cases the prospect of a large fee is of material assistance in forming an opinion regarding the necessity for an operation.

As *apropos* to the foregoing, I have inserted a few lines from a Western paper in which the author (evidently a physician), in speaking of appendicitis, gives vent to his emotion in a rhythmical effusion in part, as follows:

"It creates a happy frolic,
Something like the winter colic,
That has often jarred our inner organs some.
Only wrestles with the *wealthy*,
And the otherwise most healthy,
Having got it, then you're nigh to kingdom come."

I mention this for the reason that there is a growing feeling that appendicitis is a term employed by the doctors for the purpose of making "confusion worse confounded," and reaping a goodly harvest of sheckels before the laity is released from its perplexity. It would be interesting to learn how many normal appendices have been found during the past two years by those who were sure their diagnosis was correct

I saw the stump of an appendix after removal which was perfectly intact in so far as I was able to observe, but by transmitted light there appeared to be a small patch of inflammation about the size of the end of a lead pencil; and I was asked to believe that this was sufficient to produce marked constitutional symptoms enough to justify an operation.

It does not come within the scope of this paper to offer any suggestion regarding symptomatology or point

out the indication for an operation: these have been assigned to more skilled hands; but I have attempted to show that there is great danger in spreading broadcast the idea that an operation for appendicitis is a simple matter and can be undertaken without much risk to life. This would be true perhaps, could we assure ourselves that the appendix was in the normal position, and all that remained after the opening incision was to suture the appendix and remove the offending portion. But so many surprises are in store for the surgeon, that many contingencies must be provided for; and the proverb which teaches us that it is the unexpected that happens applies very forcibly here.

From the conservative standpoint an operation is looked upon as a *dernier ressort* only.

It is claimed that appendicitis is not so prevalent as the advocates of the early operation would have us believe, and that medicinal treatment should always precede any operative meaures. The saline treatment by its depletive effects in producing watery dejections and preventing the accumulation of gases, besides causing an absorption of the exudates before decomposition sets in, has many strong adherents.

The opium treatment also has had a brilliant record, and it is not likely to be discarded for surgical measures by those whose success with this drug warrants its continued use.

I have conversed and corresponded with physicians regarding the question of treatment, and while the majority is conservative, not a few have told me that the routine treatment by the use of opium in large doses, hot applications or leeches would be the one adopted by them before inviting surgical aid.

The fear of perforation of the appendix and subsequent peritonitis is the immediate excuse for an operation; were this true in most cases, such operation would be the only logical procedure. But this is not proven. Dr. Ryerson, of New Jersey, quotes Habershown as stating that in five hundred autopsies of peritonitis that occurred during twenty-five years in Guy's Hospital, "only three cases of perforation of the appendix" were found.

Touching the question of statistics I will insert at this point the results of my investigations among the insane population.

The same figures are useful also in showing the relation between mental states and pathological conditions, but I have chosen to introduce them here because they seem to apply with greater force in supporting the claim that appendicitis is less frequent than some ambitious surgeons would lead us to believe.

I wrote to the superintendents of some of our largest asylums and obtained statistics representing a population of over forty thousand cases. In order to prevent error, and do justice to the subject, I inquired for the total number of cases of typhlitis, perityphlitis and appendicitis. In one instance the statement was made that in two cases the diagnosis of appendicitis was made one of these cases died, the other recovered. There was no operation in either case. These were the only persons out of the forty thousand in which appendicitis or typhlitis was diagnosed or had occurred according to the records of the institutions.

Dr. Melancthon Storrs, of Hartford, who is one of New England's most progressive surgeons, informed me that during a few months in the spring and summer of this year he allowed twenty-five of his recent cases to be treated without using the knife. At the present time all are doing well with no indications of a recurrence of the former symptoms.

Instances like these can be easily duplicated, and as this phase of the subject will be ably presented in other papers and in your discussions, I will conclude this portion of my paper somewhat abruptly to notice the psychical state of the public—which is generally an uncertain quantity—but occasionally attains an equilibrium and expresses itself most emphatically.

I find that there is a popular prejudice against operations for appendicitis, without sufficient reason. Surgeons who attempt to point out the necessity for surgical interference have the term "crank" and synonymous epithets applied to them; and on more than one occasion I have been told by *physicians* that appendicitis was a "fad" which is soon to be laid aside with other worn out theories. Pathophobia is another condition of mind manifested by the laity.

Stories circulated for so many years regarding the dangers arising from the consumption of grapes, cherries and similar fruits, are now producing their full effect. As a matter of fact we, as physicians, know that the percentage of cases in which appendicitis is due to the ingestion of the above named articles is exceedingly small. While a fecal calculus is now and then discovered, the foreign body theory has been very generally abandoned; and our fruit dealers can console themselves with the thought that the demand for their goods will be restored as soon as this hobgoblin is annihilated.

Once assure our patients that the disorder is produced by a germ which has found its way into the little pocket of the intestine, and not to the presence of fruit seeds, and the embargo placed on several luscious articles of diet will be speedily removed.

That the foregoing statements are capable of amplification I am well aware; but the time limit forbids their further consideration at my hands.

These facts and theories, gentlemen, as I have compounded them, are now, I trust, in proper condition for mental digestion. The directions are, "To be taken *pro re nata*."

Relative Merits of Catgut and Silk in Surgery.

BY T. C. WITHERSPOON, M D.

Read before the St. Louis Medical Society, October 13, 1894.

In rummaging through text book and monograph, I have been oftentimes struck with the careless and indif-

ferent manner in which this subject is handled. A few merits and demerits of each are given and a waste of energy expended on the various modes of their preparation as advocated by the different operators.

Catgut and silk, both of them, are to be found in the market in various sizes. Silk has the advantage in this respect, inasmuch as it is to be had much smaller and more delicate than the gut. In comparing their relative strength, we note that the silk is by not a little the stronger, when it is of good quality.

Twisted or braided silk is the better and stronger article. Spun silk is usually made from the outer fibers of the cocoon, or from wild silk or the remains of the cocoon after the better article has been removed. It comes in special forms, now-a-days, to conform to the requirements of the surgeon. Catgut as obtained before surgical operation, is a stiff, elastic and fat holding material. Its preparation consists in the removal of the fat and in the thorough sterilization of its meshes; or rather an attempt at thorough sterilization. Now, from its very source it comes into the world of its usefulness septic. It is born, so to speak, with an hereditary taint. We find it described as the sub-mucosa of the sheep's intestine, although in reality it is the whole gut minus the outer layer. The gut of the animal is put into water for awhile and then its outer coat removed with a dull knife or something of the kind. Following this it is placed in an alkali solution for some hours, when it is removed, stretched into the required thickness and dried. In this form we obtain it and put it through further preparation to fit it, it may be, for surgical purposes. In this commercial form it will scarcely be questioned whether it is a septic material or not. Now, if one will undertake to carefully observe the different modes of sterilization of this product, and watch from time to time the changes made by operators, one will detect a feeling of unrest and a lack of assurance as to whether the precautions used were sufficient. This, of course, presupposes failures which could only be accounted for by suspecting the catgut. I believe that neither juniper oil nor alcohol will penetrate sufficiently the basis substance of the gut to insure complete sterilization in all cases. But, if so or not, that is not the pivotal point about which turns the utility of the material. This I shall speak of in a few minutes when questioning its action in the tissues. Accept the theory, however, that we have a sterile article after tedious preparation, we find ourselves constantly on the alert to prevent re-infection while it is being kept and used at various intervals going to our out-door patients. It requires of us, who use catgut, that we take it thoroughly prepared with us. If we are caught without it, there is no time for proper preparation and, as a rule, no means even for a partial sterilization. Those who trust to the little oil tanks flavored with phenol, obtainable from all surgical supply companies, will, no doubt, wish they had not, before much surgery is accomplished by its use. As prepared surgically, it is a stiff inconvenient thing to use and hazardous to pull through the thin edge of a nice plastic operation. To soften to a proper extent for use, it has to be put into water and kept there from fifteen minutes to an hour. All needles to be used have to be threaded before its immersion or inappropriately large ones used afterwards. This all necessitates some delay and more handling with a chance of infection meanwhile. As a suture it is too stiff and elastic, producing faulty and disproportioned pressure, and when softened it is too bulky in proportion to its strength. As softening takes place rapidly and digestion too in the tissues, we find that the sutures give considerably, being stretched after becoming soggy. This, of course, may even allow movement between the two opposite surfaces and occasionally gaping of the wound. The knot made is insecure and pressed unduly on the tissues below, nearly always producing an ugly necrosis and slough This one fact has made its use in plastic work very undesirable for cosmetic purposes. The part which I consider most important is this, however, that the gut —a proteis substance, softened by the tissues and kept warm and moist—offers a most elegant nudus for the culture of bacterial organisms. Here they grow unattacked by phagocytes which cannot penetrate the gut sufficiently well, and here also we have no opposing anti-toxines applied to check their vigorous growth. Large gut thereby offers a stronghold in which multiply these organs unchecked. Even if these organisms are not in the gut when introduced, they are undoubtedly present in the skin and mucous tracts, and complete sterilization of the whole field of operation is therefore impossible.

The main feature in the list of advantages of catgut, if it has a list, is its property of being readily absorbed. In placing sutures or ligatures there are two conditions to be considered; namely, whether the suture is buried or not. It is scarcely conceivable that absorbability should be considered as a desideratum in the use of exposed sutures. Nothing is easier than to remove them, and nothing more desirable than to keep them in place until we see fit to take them away. In buried sutures it is possible, I believe, to find a tedious and unnecessary task in their application. Deep sutures from the surface answer every purpose except in the cavities, where silk, almost without a dissenting voice, is the article preferred. The presence of catgut in the plastic operation in buried rows between the uniting surfaces I believe will cause retarded union. As a ligature it is eminently a failure. No vessel of size should be tied with it, as the softening and relaxation while left in the tissues is apt to allow recurrent hemorrhage. Those vessels which could be ligated with it are better controlled by force-pressure.

Silk, on the other hand, has many advantages. It is soft, pliable and non-irritating to tissues. In its preparation we have but to ask for a vessel, some water and the stove five minutes prior to its use. It can be carried as we please and prepared by sterilization in less time than it takes catgut to soften properly for use. Handling is reduced to a short period and danger from re in-

fection thereby avoided. As a suture it has no superior, being strong in texture, small in bulk and making even pressure throughout upon the included tissue. The knot is small, inoffensive and tight, being solidly coapted. In the tissues it does not soften or relax its hold during repair. It is a proteid substance containing $C_{15}H_{25}N_5O_6$; but very insoluble. In the tissues it becomes encysted and remains for months as an inocuous body. Eventually, however, it is removed, in some places faster than in others. In itself it is not a medium for the growth of bacteria and merely contains them in its meshes when infected, thereby offering a less favorable locality for their growth. This property can be remedied, however, by boiling the silk in wax, when the meshes become closed and non absorptive. Silk worm gut is in reality silk, being the artificial product formed by molding the secretion taken from the true silk glands of the silk worm, before he begins to form the cocoon around him. In all plastic operations silk is eminently the thing. If it comes in contact with irritant or septic secretions, its absorbing properties can be remedied with the wax. In ligaturing it has no equal, and as a buried suture or ligature we know full well that it does no harm, but remains inert until absorbed.

A Cure for Diphtheria.—Dr. Roux's Method.

BY PAUL E. FIQUET, PH D., ST. LOUIS, MO.

Translated from the French.

The International Congress of Hygiene has just assembled at Buda Pesth. As was expected, its principal sections first of all took up the subject of diphtheria, and of the new treatment of this dread disease. In Austro-Hungary alone, 20,000 children die annually of contagious croup, and Paris itself pays a yearly death tribute of 1,200 to 1,500 unfortunate little beings whom science has so far been powerless to shield.

A great many practitioners, as well as the public at large, are wont to accuse bacteriology, the science of microbes, of being of no practical value to humanity, and of not going any further than to scientifically explain to men why they die, without affording them any weapons to fight with against death. But this time bacteriology has demonstrated its practical usefulness at the same time as its theoretical worth. Thanks to admirable work and studies laid before the congress, diphtheria will henceforth become a comparatively harmless disease. Whenever the physician is able to take hold of it in time, and to apply to it the scientific directions, the mortality will be reduced to scarcely 2 per cent in cases of plain diphtheria, whereas nowadays it rises to over 50 per cent.

Three successive steps had to be taken in order to attain such magnificent results, and all the scientific men through whose efforts they were obtained, have personally attended the congress. The diphtheria microbe was discovered by Prof. Loeffler, of Greifswald. Dr. Roux brought to a successful result Prof. Loeffler's discovery by demonstrating that said microbe was producing all the effects of diphtheria, and notably the effect of paralysis. Then he made the most important discovery of the toxine produced by the microbe. A new step, of paramount importance, was again made by Prof. Behring, of Berlin, in the discovery of anti toxine by which was given the power of fighting the disease.

The modus operandi is as follows: After injecting Dr. Roux's diphtheric poison into different animals was found that their blood-serum acquired the property of preventing the contracting of the disease, and even of curing it whenever it has already made its appearance. It is sufficient to inject a certain quantity of said serum prepared according to Prof. Behring's method into the subject attacked by the dread disease.

Since this discovery was made, pains were taken in France and Germany to bring about its being put in practical use, and all those who had busied themselves with this important question quite naturally have come together at the Congress in Buda-Pesth, so as to compare notes and ascertain the results arrived at. It can here be truly said that on this occasion French science did not cut a bad figure at all, and that Pasteur's teachings can once more register a new and grand conquest of scientific and positive value.

In his speech before the Congress, Dr. Roux showed entirely decisive results. By series of arguments, substantiated by facts, he demonstrated that the serum is a perfectly efficacious remedy against diphtheria. Under its treatment of 300 diphtheritic children the death rate was reduced to 26 per cent instead of the usual 50 per cent. Here arrises the question: Why is the mortality still one-fourth, if the remedy is really a specific one, as claimed? But it should be borne in mind that a great number of children are brought to the hospital when already at death's door, so to speak, and having scarcely the time to benefit of the full effects of the treatment. Besides, many children are at the same time suffering with a complication of diseases produced not alone by the diphtheria bacillus, but also by other microbes as well, on which the serum is powerless. By deducting all these cases from the total and taking into account only cases of plain diphtheria, and only such ones as are taken in proper time, the mortality is found to be reduced to only 2 per cent, a true characteristic of quite a mild disease.

The treatment consists in giving the children thus attacked, one injection of a given quantity of serum of a horse, previously vaccinated against the disease, a single injection proving almost always sufficient. Dr. Roux never gave more than two. To all such children he usually administers 90 cc. of serum in one subcutaneous injection into the hypochondriac region. There at once occurs a fall of temperature, an excellent prognosis; within twenty-four hours the growth of the choking false-membranes is arrested; they are detached

in thirty-six hours, and the diphtheria bacillus disappears from the throat.

It has been since February 1, 1894, that Dr. Roux began applying his method at the Childrens' Hospital. According to his report, Dr. Roux would make his daily visit to that special hospital's pavillion, supplied with a large quantity of prepared serum, and give his treatment to all the children there confined, no distinction being made as to their condition, an important point in itself, being that no selection is made among the patients; the usual mode of local treatment remaining the same. He, consequently, kept up such prescriptions as were previously used by the other physicians—as glycerin, salicylic acid, borated lotions, etc. The serum being the only new element brought into use, to it alone should the supervening changes be ascribed; such changes being sufficient proof in themselves. During the years 1890, '91, '92 and '93—that is before Dr. Roux's experiments, 3,971 diphtheritic children were admitted to the Childrens' Hospital, of whom 2,029 died, thus forming a death average of 52 per cent. On the other hand, a statistic computed from February 1, to July 24, 1894, and submitted to the Congress, goes to establish that, during that period, the serum being used on all of the 448 patients, the number of deaths was only 109, showing an average of 24 per cent. The conditions having remained the same, the difference between 52 per cent and 24 per cent demonstrates in an incontestable manner the absolute benefit derived from the new treatment.

During the above period of time, there were admitted to another Paris hospital—the Hopital Trousseau, 520 children ill with contagious croup, and 316 of them (or 60 per cent) died. Dr. Roux's treatment reduced this terrible death rate of 60 per cent to 24 per cent. And this is not all; if the child is affected with diphtheria only, the serum masters the disease and insures to the child immunity against further attacks, and all accidents secondary and consecutive to diphtheria (often proving so serious), such as measles and scarlatina, are rendered infinitely less frequent.

Dr. Roux's demonstration was received with enthusiastic applause, irrespective of nationalities or specialists. All the practitioners, who constituted a good majority of the large audience, acknowledged that they fully understood the importance of this new victory over merciless death. Mr. Hieronyoni, Secretary of the Interior, who occupied the chair, warmly congratulated our fellow-countryman who met with a most decided triumph.

Dr. Garchan, one of the physicians to the Sick Childrens' Hospital, being interviewed, confirmed all the foregoing particulars about Dr. Roux's discovery, and in conclusion, said:

"You can see that Dr. Roux's achievement deserves to be considered as one of the greatest triumphs of humanity. You may add that he is not only an eminently scientific man, but is also full of charity and sense of duty. You ought to see him at the Childrens' Hospital, how painstaking, when for hours, bent over the poor moribund beings, trying to save them from imminent death, sparing nothing to alleviate their sufferings, every hour risking his own life. One evening I was called to see a poor family in the suburb of Montrouge, at the other end of Paris. There I found five children, the eldest barely 14, all taken with contagious croup. I soon felt convinced that their cases were desperate ones. and I so remarked to my fellow-physician, who had summoned me. 'There is but one man,' said I, 'who can save them, it is Dr. Roux, of the Pasteur Institute; but, unfortunately, he never makes calls in the city, and the supply he has on hand of prepared serum is hardly sufficient for the Childrens' Hospital service; but try your luck, go and see him, and beg of him to come.' My advice was followed, and Dr. Roux came out at once. He established himself at the bedsides of these little sufferers, and succeeded in saving four out of the five. When the parents, wishing to express their gratitude, offered him an humble remuneration for such a great service, he simply refused to accept anything. 'If you have something to give away,' said he to them, 'bring it to Pasteur Institute; in this way you may be instrumental in saving other lives.' Such is this great scientist—good hearted and disinterested."

Professor Amoyama, of Tokio, who accompanied Dr. Kitazato to Hong Kong to study the plague, contracted the disease and nearly lost his life.

Bicycling.—The Paris Academy of Medicine recently discussed the question of bicycling, and came to the conclusion that this form of exercise might be attended with great danger to the heart in those who suffered from any affection of this organ. One speaker referred to the recent death of three persons from heart disease while riding bicycles, and asserted that not less than one thousand wheelmen in Paris were suffering from cardiac affections, and were in danger of the same fate.—*Medical Record.*

According to the *Lancet-Clinic* the "Medical Directory of England, 1894, contains the names of 35,772 physicians. Of this number London has 5,590 in active practice, 15,000 are in the provinces, while Ireland, Wales, and Scotland have 6,000. The remainder hold official positions in the army and navy, with other public appointments. In Paris there are 2,208 physicians in active practice at the present time; this is about one to every 1,000 inhabitants. Most are to be found in the wealthier quarters of the French capital. The number of physicians in Germany is 21,621, of whom 1,799 practice at Berlin. This city has eighty-four hospitals, or about fifty seven beds to every 10,000 inhabitants. Cook county (Ill.) with about the same population as Berlin has double the number of physicians.—*Medical Standard.*

EDITORIALS

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The New Era in Medicine.

If the serum-therapy in diphtheria fulfills the hopes and promises of its friends, then, indeed, we are on the threshold of a new epoch in medicine. Unlike the other great discoveries in medicine, which were generally made by one man of genius, who, as it were, would impress the stamp of his personality on medicine of his period, there are, in this instance, quite a number of workers who have directed their energies to a common end.

A cablegram from Paris, dated October 18, states that a committee of the Academy of Medicine appointed by that body to investigate the merits of the new therapy has reported favorably. The Pasteur Institute will soon be able to furnish the new specific for diphtheria at a cost which will place it within the reach of all. In France the new treatment is known under the name of Roux's treatment. Roux has been for many years the assistant and collaborator of Pasteur. He is an able man and has done much towards the perfection of the method of serum-therapy. The greatest merit, however, is due to Behrens, who has been the first to demonstrate the anti-diphtheria serum to be an almost infallible remedy when applied early.

The Committee, while recommending the new 'Roux treatment" gives also full credit to Klebs, Loeffler, Fraenkel, Behrens and Kitasato. The name of Koch, who has been working in the same field of late, is not mentioned at all. Since that gentleman's marriage to a soubrette and his speedy divorce from her, it seems to be *bon ton* not to mention his name anymore, even where it is, as in this case, a matter of simple justice.

Recent Studies on Diphtheria and Pseudo-Diphtheria.

Dr. W. H. Park read a paper upon this subject at the eleventh annual meeting of the New York State Medical Association. After reading the explanatory circular that had been issued by the Board of Health and commented on the results of eight thousand cases observed by the Board, he said that it had been found that where the membrane was not easily accessible, as in the larynx, the bacteriological diagnosis could not always be made (N. Y. *Med. Journ*). It had been found that the diphtheria bacilli usually persisted in the throat for at least seven days after the disappearance of the membrane. Virulent bacilli had been known to exist in the throats of healthy persons who had been attending cases of diphtheria, so that it was evident that such persons could convey the disease to others without perhaps themselves becoming ill. For this reason it had now become the practice of the health authorities to make cultures from the throats of the attendants on diphtheria patients as well as from those of the patients themselves. From an examination of four hundred and fifty cases of pseudo-diphtheria in which isolation had not been practiced, it had been found that no undesirable results had followed the neglect of this precaution. About ten per cent of the cases broke out at the same time. The prevalence of pseudo-diphtheria, unlike that of true diphtheria, depended largely on the season of the year. It would seem that if those exposed to pseudo-diphtheria could keep their throats in a healthy condition they had little to fear from the disease. Experiments had been made at the Willard Parker Hospital to determine the comparative value of various forms of local treatment. The patients had been divided into three classes—one treated with irrigations of mercury bichloride (1 to 4,000), another treated with peroxide of hydrogen, and a third treated with lukewarm water containing a drachm of common salt to the pint. After treating eighty cases it had been decided that those that had received the irrigations of warm salt solution had done fully as well as the others, and that those treated with the peroxide of hydrogen had yielded the poorest results. They had not found that sublimations of calomel had proved antiseptic in the nasal passages. In concluding his paper, the author referred to the antitoxine treatment of diphtheria, and said that where sufficient doses had been used, all observers had noticed a very decided improvement in all the symptoms, particu-

larly the effect in checking or arresting the growth of the membrane. So far as this treatment had been carried out at the Willard Parker Hospital, it had abundantly confirmed all the allegations made for it by foreign observers. Many patients that appeared on admission to be almost moribund had improved under the treatment with remarkable promptness. It also seemed to be an almost certain preventive when administered to persons exposed to diphtheria, though this immunity only lasted for a few weeks.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening Oct. 13, 1894, the Vice President, HEINE MARKS, M.D., in the chair.

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DR. A. H. MEISENBACH presented a specimen of "Bony Formation" which had occurred about the knee of a child 13 years of age, and which had been removed by a resection of the joint.

The history of the case was very unsatisfactory. Two years ago there was a sore at the knee, a physician had "lanced" it, and the growth had gradually developed since.

When examined, the normal contour of the joint had been almost completely destroyed and motion was very limited. The patella could not be felt at all. The condyles of the femur were symmetrically enlarged, expanded, and appeared to have been driven apart by some force. The tibia was displaced backward and upward, so that the anterior surface of the tuberosities rested against the posterior articular surface of the condyles. Projecting from the lower surface of the condyles of the femur was a horn of bone which had penetrated the skin. At its insertion into the femur it was cartilaginous, and the projecting end had become necrosed and emitted a fetid odor. There was a fistulous opening on the inner side of the joint, at about the upper margin of the condyle of the femur.

It was thought that the condition was one of bony new growth. A typical resection was made, but the classical lines of incision could not be followed out. The condition found practically corresponded with the diagnosis made by palpatian. The projecting horn of bone was found to be continuous with the shaft of the femur, and lying beneath it was the displaced patella. The tibia was displaced backward and the shaft of the femur was found continuous with, and mounted upon two pedestals which were formed by the internal and external condyles.

It was clearly not a condition of simple new growth, but due, in all probability, to a disease of the knee joint, very likely tubercular in character. There probably occurred spontaneous fracture of the condyles, an overriding of the shaft on the fractured ends, secondary union of the fractured ends to the shaft, and a process of separation—from the bone proper—of the descended portion of the shaft, which also ploughed its way through the skin and became necrosed.

***

DR. T. F. PREWITT presented a patient upon whom he had operated two years ago, for "Spina Bifida." The child can not use its legs very well, but can stand when holding to a chair. It is healthy otherwise.

This is one of five cases operated upon by the speaker. Three recovered, one child died of cholera infantum three months after the operation, and in the other there was a perforation of the sac at the time of operation, and the child died of meningitis a short time afterward. In one case there existed a round hole leading into the spinal canal, in another it was a longer groove. In each instance the sac was cut down upon, dissected from the surrounding structures, such portions as were not required to cover the opening cut away, and the sac closed after the cord had been replaced. In one instance some fibers of the corda equina had to be cut away, as it was not possible to separate them from the sac to replace them into the canal.

***

DR. LOUIS HAUCK presented a specimen of "Sarcoma of the Superior Maxilla," and the patient from whom the tumor had been removed, April 29, 1893. Patient was 29 years of age at the time of operation, and gave no history of hereditary tendency to cancer. He is a wagon maker by trade, and attributed the trouble to a blow received nine months before the operation, by an iron ring at the end of a four foot chain. A swelling resulted which never subsided, but continues to grow gradually.

The ordinary median incision was made, and it was found possible to save the soft parts covering the hard palate. Accordingly, an incision was made along the alveolar process and the whole soft parts turned back. As a consequence the roof of the mouth is almost perfect. There was no pus formation at any time, the cavity was packed with iodoform gauze and drained through the nostril. Union was complete in two weeks and the patient resumed work one week later.

DR. A. H. MEISENBACH thought it very fortunate that the trouble was recognized so early, and that the patient was sensible enough to submit to the operation so readily. This trouble probably originated in the marrow of the bone, and this is an important factor in determining the direction in which the tumor grows. It may start from the periosteum, from the bone substance, or in the endothelial membrane. We are not always so fortunate in being able to remove all the diseased portions of tissue, even without preserving certain anatomical structures. The great difficulty in these

cases is the late period of the disease at which proper measures for relief are instituted, and the pronicity to a recurrence of the trouble, consequent upon an incomplete removal of the cancerous cells. The disease cannot be pronounced cured or eradicated until two or three years after the operation.

To emphasize the importance of early operation, the speaker cited two cases which had occurred in his practice. The first was that of an old lady, in whom the disease had started in the left antrum. At the time of operation there was bulging of the face, of the left eye, into the nostril and mouth; the osseous structure of the palate was destroyed and there was involvement of the soft palate. The tumor was of the soft gelatinous variety. The operation was done with the patient in the half reclining position, the Ferguson incision made, and chloroform administered through a tube passed into the nostril. Great difficulty in swallowing and regurgitation through the nose of liquid food resulted. She died one year later.

The other case was seen about 14 months ago. A diagnosis was made from the history of rapid growth of a tumefaction of the left superior maxilla and a bulging into the nostril. Involvement of the palate could not be demonstrated by palpation at the time. Immediate operation was advised, but the patient desired to adjust some business affairs and promised to appear in a short time. He sought other professional counsel and delayed the operation for several months. It was finally performed by another surgeon. A second operation soon became necessary, and the patient succumbed a very short time later.

Dr. William Johnson thought that most patients die within two years after operation. In his opinion the disease is a constitutional one, and the mere removal of the growth, therefore, will not cure the disease.

Dr. T. F. Prewitt differed with Dr. Johnston, and thought that the disease is at first purely local and due to abnormal proliferation of misplaced cells. The constitutional involvement is secondary, and we can give a patient absolute assurance of immunity from a recurrence, if we are sure that we have removed all the cells connected with the growth.

In former years it was thought that tumors are either benign or malignant. If benign, they could do no harm and should therefore not be removed. If malignant, removal would be of no avail and they should therefore be allowed to remain. Cancer was considered constitutional—malignant—and operation therefore discouraged.

Speaker happened to look over Keith's new work on abdominal surgery, in which is reported a case of removal of the cancerous uterus in 1882, the patient being alive at present. We must accept this as authentic, as Keith writes honestly, picturing cases in their true color and making no parader of his work.

In Dr. Hauck's case it was fortunate that the diagnosis and operation was made before the tumor burst through the bony wall. In 99 cases of a hundred we are not so fortunate. This patient has a good chance to remain immune.

Dr. H. W. Loeb called attention to a means of diagnosis in the early stages of the trouble. This consists in transmitting light through the antrum by means of an electric light being placed in the mouth. It is very simple, beautiful and efficacious in demonstrating the opacity of one antrum to the patient and operator.

This test was employed in the case of a young girl from Illinois, in whom there was considerable enlargement of one side of the face. There was no bulging of the eyes nor into the nose, but it looked suspicious. The test demonstrated the absence of antral involvement, and the tumor has since disappeared.

***

Dr. T. C. Witherspoon read a paper (See page 363) entitled

The Relative Merits of Silk and Catgut in Surgical Operations.

Dr H. Jacobson considered catgut of use in rectal surgery where an absolutely aseptic condition is not possible. In this connection its use as a suturing material in hemorrhoids has been particularly emphasized, it being claimed that it causes less pain than silk. Catgut boiled about one hour at a temperature of 212° F. will yield no cultures.

Dr. H. C. Fairbrother commented very favorably on the use of silk worm gut as a suturing material. It is easily rendered antiseptic, is thin, strong, threaded with facility and then there is no danger of its slipping from the needle. The knot is very firm and easily tied.

Dr. Emory Lanphear differed with the essayist in regard to the use of catgut. He is in the habit of using silk in all cases that are infected or that may become so, and catgut in all aseptic cases. There is no doubt that catgut may be sterilized, which may be demonstrated by laboratory experiments or practical results. Juniper catgut should be used, that preserved in carbolized solutions being unreliable. The gut should be selected with great care, dry gut being generally preferable. It is washed with soap and water, placed in sulphuric ether until translucent, immersed in juniper oil for a period of two to three weeks according to the pliability desired, and then preserved in a solution composed of 95% alcohol, 5% chloroform and 5% sterilized castor oil.

Its use in pelvic surgery and in operations about the head is particularly good. It may be left in indefinitely, obviating the necessity of frequent dressings and causing no trouble when they are renewed.

There is no reason for discarding the gut as a ligature if it is properly used. Speaker had successfully ligated, the common carotid, the femoral and iliac arteries with it.

Two years ago he had published an article in the *International Journal of Surgery*, in which he detailed the

results in 100 cases in which catgut had been used with the idea of determining whether suppurative conditions could result as a consequence. The cases included all kinds of major operations and were watched very closely. In only four was there suppuration after the first dressing or subsequently, and even in these instances it was not definitely determined whether sepsis was due to the catgut, or if it had obtained at the operation.

Dr. A. H. Meisenbach also disagreed with Dr. Witherspoon, in regard to the relative merits of silk and catgut. Catgut has been condemned time and again, by microscopists and surgeons, on account of its being a source of infection. Five years ago Kocher, of Bonn, had a series of mishaps which he attributed to catgut, but which were demonstrated to have been due to defective technique in some other respect. He substituted fine silk in all cases, claiming that it was subject to more thorough sterilization. When a heavier grade was required he doubled the fine strands.

Dr. Martin, of Berlin, uses more catgut than all the other surgeons of that city combined, his comsumption amounting to $450 worth per annum. He uses it for everything, and makes a most beautiful plastic operation of the perineum with the deep, buried, continuous catgut suture. His results are perfect. Speaker had done the same in this city, but he prepares his own catgut. According to his mode of preparation, the gut is first immersed for 24 to 48 hours, in sulphuric ether; then in a solution of bi-chloride of mercury; after that in 95% alcohol; and finally in a 1–2000 solution of mercuric chloride. Another mode of preparation, suggested recently, is to boil the gut in absolute alcohol under pressure.

One of the objections urged against catgut is the readiness with which the knot slips. This need not occur if proper care is exercised. Many surgeons use too much force in tying knots and in that way cause a necrosis of the tissues by strangulating them. The danger of this complication is largely overcome by the elasticity of the gut. In ligating vessels, catgut has a very marked place in surgery, and the majority of surgeons would not be willing to discard it for silk. It is doubtless more difficult to thread catgut, but this prevents the use of too small a needle, a mistake which, in the speaker's opinion, is too often made by surgeons.

Dr. Witherspoon, in closing the discussion, said that the various modes of sterilizing catgut which have been suggested from time to time and are being suggested daily, are very much like prescriptions for the cure of gonorrhea. Their very number at once suggests a feeling of uncertainty in all and proficiency in none. When sterilized according to some methods suggested it yields an insoluble material, which will not give a culture when planted in gelatine. Still it may be full of spores.

Speaker had used catgut with bad results, and silk with excellent success; consequently he feels safer with the latter material. Silk, as a ligature for the broad ligament, is a far superior substance when used carefully. Suppuration need not occur, unless the ligature be introduced into an infected area. In ligating vessels a thin strand that can be drawn tightly should be used. Sulk meets this requirement more perfectly. Catgut used in the bowel may be a very good thing, and yet, it will be found that most surgeons prefer silk.

ABSTRACTS

MEDICINE.

The Nervous Origin of Pyrexia.—The nervous origin of pyrexia has been discussed both at Rome and Bristol; but it can hardly be said that many new facts have been brought forward. Still, it is important to have emphasis laid on the primary fact that pyrexia may be produced by nerve lesions and mental impressions just as much as by the toxins of ordinary infective diseases. It would be interesting to know whether any difference in type is discoverable in the pyrexias produced under these different circumstances, or whether cross-circulation experiments would show a continuance of pyrexia in fevers if the central nervous system were supplied with pure blood. The question whether pyrexia is a remedial effort, or a mere consequence of disease more or less harmful to the patient, requires us to state whether all the organisms which produce the infective fevers are injured or otherwise by the high temperatures produced. Dr. Douglas Powell states that unquestionably they do require for their cultivation a lower temperature, and that pyrexia tends to lower their activity. Hence remedies which lower the temperature below that normal to the disease may greatly increase the danger of microbic activity. Occasionally we find fevers running their course with subnormal temperatures. Teissier recently related a case of pneumonia of this kind, and instances of typhoid and scarlatina are not unknown. In these few instances there may have been individual idiosyncrasies like the permanent subnormal temperatures occasionally found in healthy individuals, or some special compensation. When the temperature in typhoid is kept down to approximately the normal of health by continuous bathing, we ought to see whether or no microbic activity is increased. Though even here it might be replied that the test is not a sound one, for cold bathing acts largely by increasing the elimination of toxins, and not merely by reduction of temperature. It would seem then of great importance to determine by direct experiment for each kind of fever what is the temperature at which the activity of the special microbe is at its height.

Hale White, in propounding the nervous origin of pyrexia, holds that it is due either to direct interference with the nervous centers, to reflex stimulation of

them, or to the circulation through them of toxins. Thus experimental injury of the corpus striatum produces pyrexia, and it may be noted that a lesion of one only of these bodies gives a higher temperature on the opposite side of the body. Cortical lesions produce a highly irregular form of pyrexia, and hence some observers place the thermotaxic mechanism in the latter, and the thermogenetic centers in the corpus striatum. The actual production of heat is in the muscles, and the thermolytic mechanism of the skin and lungs is under the control of a third special center. Instances of reflex pyrexia occur in 75 per cent of simple fractures, in biliary colic, and in aseptic burns; those caused by toxins of fevers are of every day occurrence, while the results of direct interference are seen in the pyrexia of meningitis, hysteria, chorea, and head or spinal injuries; the highly irregular temperature of meningitis being a typical case of cortical irritation. In short, every form of pyrexia can be traced in some way or other to influences acting on the central nervous system.

Professor Bouchard illustrated a similar theory at the International Congress by quoting instances where emotion in weakly persons produces a rise in temperature. Such cases are seen every "visiting day" in our hospitals. Thus when the nervous system is debilitated the effect of the ordinary forces which produce or get rid of heat is exaggerated and we may have pyrexia from emotion, from sitting up in bed, or even from intellectual effort. He believes that ordinary muscular effort would produce a great rise of temperature if this was not controlled automatically by the thermotaxic mechanism in health. In the Bristol discussion there was general agreement as to the undesirableness of controlling moderate pyrexia. In hyperpyrexia, on the other hand, there is no doubt of the need of control, and the great question is how this may be best done. Two classes of antipyretics are sometimes open to our choice. In the one we find the drug acts as a direct poison to the microbes, thus cutting off the source of the fever; and in the other the sole result is that the pyrexia is got rid of without any action of the disease. Unfortunately there are few diseases where the former class are available, and we have therefore remaining the so-called new antipyretics, or quinine and cold baths. There are numerous plans of applying cold less clumsy than the bath. Dr. Curnow recommends an ice pack. A sheet is wrung out in cold water, folded in four layers; pounded ice is placed between them, and the sheet wrapped round the patient until the temperature has fallen to 102°, but not afterwards. Another plan consists in placing a large rubber sheet under the patient, raising the edges all round with sandbags and bolsters, and then filling it with water, which can be siphoned off afterwards. Maillart, Lichtheim and others administer 5 or 6 litres of water daily by the mouth. Da Costa, Sciolla, Friedenwald, and many French and American physicians have brought down the temperature by painting on the abdomen or chest 30 drops of pure guaiacol, and covering it over with waxed paper. The action is slow, but decided and lasting; but there is apt to be much depression, and therefore the amount mentioned should not be exceeded at first.

Burney Yeo claims that the results of wide experience under different observers show that his method obviates the need of baths or antipyretics almost entirely. He seeks not only to disinfect the intestinal canal, but also to destroy the toxins in the blood. He employs a mixture containing free chlorine and quinine every two or three hours, gives diluted milk or clear soup, and restricts the quantity if undigested. He finds that infusion of coffee is a better stimulant than alcohol in protracted cases, and praises Maillart's practice of administering great quantities of water to wash out the intestinal canal.—Geo. Parker in *Bristol. Med. Chir. Jour.*

Bone Marrow in the Treatment of Pernicious Anemia.—Fraser, of Edinburgh, writes on this subject in the *British Medical Journal* and, although this communication deals with only one case of pernicious anemia treated with bone marrow, the reputation of the writer and the curative effect seems sufficiently evident to justify its publication, especially as an opportunity occurred for testing in it the value of the chief remedies hitherto used in the treatment of this disease.

The patient, A. R, a gardener, sixty years of age, entered the Royal Infirmary on September 30, 1893. His symptoms were frequent vomiting and diarrhea, edema of the feet and ankles, moderate and irregular pyrexia, dimness of vision, retinal hemorrhages, anorexia, dyspnea, and lastly, complete prostration. The illness had existed for about four months.

Although the author was desirous to treat this patient at once with bone-marrow, the condition was so serious that, in the absence of experience regarding the therapeutic value of bone-marrow, he considered it advisable to administer, in the first instance, some of the remedies usually employed in pernicious anemia. Only after they had failed in producing benefit was bone-marrow given.

For the sake of brevity the history of the patient is divided into eight periods, which correspond with the treatment adopted in each period.

First period, two weeks; no medicial treatment. During this period the hemocytes of the blood varied from 1,860,000 to 1,460,000 per cubic millimeter, and the hemoglobin from twenty eight to thirty per cent, the specific gravity being 1038. There was great distortion in the shape and variation in the size of the hemocytes, which did not form rouleaux. Retinal hemorrhages were present in both eyes.

Second period, two and a half weeks; ferrous chloride, 6 to 12 grains daily. The hemocytes and hemoglobin steadily fell to 900,000 per cubic millimeter and twenty per cent respectively, and the specific gravity to 1036.

Third period, eight days; arsenic (15 to 30 minims of

liquor arsenicalis daily) was given, in addition to 12 grains of ferrous chloride, daily. Still further deterioration occurred in the hemocytes and hemoglobin, the former falling to only 843,000, and the latter to eighteen per cent, but the specific gravity remained at 1036.

Fourth period, three weeks; arsenic and iron were continued in the above doses, but ox-bone-marrow was now also given by the mouth, uncooked and in the quantity of 3 ounces daily.

An almost immediate improvement occurred, so that at the end of this period the hemocytes numbered 1,800,000, the hemoglobin amounted to thirty-five per cent, and the specific gravity was 1042. The patient now began to recover strength; he could remain out of bed for several hours each day, and the appetite was greatly improved.

Fifth period, twenty-six days; ox-bone-marrow, arsenic and salol (15 to 30 grains daily). The improvement was continued. The hemocytes rose to 2,470,000, the hemoglobin to fifty-five per cent, and the specific gravity to 1047. The patient felt much stronger, and his complexion was distinctly pink and had almost entirely lost its originally yellow hue. He had also gained in weight.

Sixth period, thirty-two days; ox- and calf- bone-marrow and salol (30 grains daily).

The improvement was still further continued, so that the hemocytes reached an alsolute maximum of 4,130,000, though they afterwards fell to 3,400,000; the hemoglobin rose with the hemocytes to seventy five per cent, and also fell to seventy per cent, and the specific gravity became 1058. The blood had now a healthy appearance. It could flow readily from a small puncture, it formed fairly good rouleaux, and the red cells were more uniform in size and fewer of them were distorted.

The patient was now able to do light work in the ward without fatigue; the alimentary system was perfectly healthy; edema, pains, headache, pyrexia and the venous bruits in the neck had disappeared, and the skin had a healthy appearance.

Seventh period, one month; ox- and calf-bone-marrow and ferrous chloride (6 to 12 grains daily). The hemocytes remained, with some oscillations, at about 3,400,000; the hemoglobin averaged from seventy to seventy-five per cent, on one occasion reaching eighty per cent, and the specific gravity remained steadily at 1059.

The patient felt strong and enjoyed assisting in ward work, such as carrying coal up a long flight of stairs. He remained out of bed all day, there were no subjective symptoms even on considerable exertion, and "hemic" venous and cardiac bruits were no longer audible. Ophthalmoscopic examination of the eyes showed that all traces of retinal hemorrhage had disappeared.

Eighth period, not concluded when this paper was communicated to the Congress; ox-bone-marrow, iron, and salol. The improvement was maintained, so that the hemocytes reached 4,000,000, the hemoglobin eighty-five per cent, and the specific gravity 1060. The patient was now practically in a normal condition. His appetite was good and his appearance that of a healthy man.

An examination of the graphic representation of the progress of the case shows that no benefit was obtained —that, indeed, deterioration occurred—during the prolonged administration of iron and arsenic in both medium and large doses, but that the remarkable improvement which occurred was produced only after the administratien of bone-marrow had been commenced, while it continued to be produced during periods in which neither arsenic nor iron were being administered.

The demonstration of a curative influence by bone-marrow may appear to be somewhat obscured by the introduction of salol into the treatment, and a further examination of the therapeutic value of this substance in pernicious anemia appears, indeed, to be suggested. The introduction of salol was due to the urgency of the case requiring that no description of treatment should be neglected in whose favor any theoretical or experimental evidence had been advanced. Since, however, the communication had been made to the International Medical Congress, the patient was treated with only bone marrow for a period of twenty seven days (period ten), and the improvement was well maintained to the end of this period.

He was discharged from the hospital because of his urgent wish to return to work as a gardener, for which he declared himself more able than he had been for the last five or six years; and, to use his own expression, he felt "as if he had been made over again." On the day when he left the hospital (May 19, 1894) the hemocytes numbered 3,900,000 per cubic millimeter, the hemoglobin was seventy-eight per cent, and the specific gravity 1058; the hemocytes were nearly uniform in size, only a few of them showed slight "tailing" and no megalocytes were present; there was no excess of leucocytes or of blood-plates, and good rouleaux were formed on the microscopic slide.

It may be worthy of note that before medicinal treatment had been commenced, and in the earlier periods of treatment when the patient was receiving large doses of iron and arsenic, the blood plates were conspicuously deficient in number; while soon after the administration of bone-marrow had been commenced a great increase occurred in their number, which was followed by a reduction to a moderate number during the later periods when the blood had been restored to a nearly normal condition.

The frequent failure of therapeutic measures in pernicious anemia confers an interest upon any remedy which appears capable of controlling this malignant disease, even although the evidence is derived from one case only, and notwithstanding the circumstance that temporary improvement occasionally, though very rarely, appears to occur spontaneously. The facts now stated appear to justify the hope that bone-marrow will be found to have a remedial value in some, at least, of the cases of pernicious anemia.—*Therapeutic Gazette.*

Treatment of Neurasthenia.—Among the prominent symptoms of this disorder are moroseness, fault finding, dull aching in the occiput or at the vertex, and in the lumbar spinal region. Following these come tachycardia and palpitation, sinking spells, hot flushes, profuse perspirations on the face and extremities, indigestion, short attacks of jaundice, scanty secretion of urine of high specific gravity, temporary sexual impotence. Great stress is laid on the appearance in all cases, with vasomotor symptoms, of a dilatation of one pupil with a contracture of its fellow. The author thinks this due to derangement of the sympathetic nerve.

For treatment the cases are subdivided into (1) those with a lithemic element; (2) those without a lithemic element; (3) those with marked vasomotor disturbance.

After trying to find and remove the cause of the disorder the asthenic cases of the first two divisions are ordered to take, before rising, two ounces of strong, black coffee, and in a half hour take a tepid sponge bath for about five minutes, then dress and take breakfast. The plethoric cases receive, instead of this, one-half ounce or one ounce of a saline cathartic followed by a cold bath, and if possible a cold plunge. Just before retiring a warm general bath is taken.

For from five to eight minutes a galvanic current is applied with the electrodes on the sacrum and the neck, then the positive pole is applied to the forehead and a weaker current turned on, and, finally, with the electrodes to the hands as strong a faradic current is applied as the patient can bear. This treatment is given once, twice, or thrice weekly; the severe cases receiving treatment three times weekly.

Massage may be given also, and the lithemic cases receive after meals one to three tablets, each containing lithium carbonate, three grains; phosphate of iron, one-third grain; extract of nux vomica, one ninth grain; arseniate of soda, one-twenty-seventh grain. The author claims that patients who seem unable to take iron in other forms use this tablet with benefit and that it acts well also in cases of chronic rheumatism.

Non lithemic cases are given bromides, hyoscyamus, tincture of nux vomica, albuminate of iron, phosphoric acid and pepsin. Trional in five or ten grain doses is the favorite hypnotic.

Cases with vasomotor disturbances have been intractable and unsatisfactory.—Dr. Wm. C. Krauss, in Buffalo *Medical and Surgical Journal.*

Blue Spots in Typhoid Fever.—The *Australian Medical Journal* for August 20, publishes an artical on this subject by Dr. A. V. M. Anderson, of Melbourne, in which he remarks that this rash is one of the least commonly seen in the course of typhoid fever, and probably escapes observation in a number of cases because of its indistinctness. It seems to have been originally observed by the French physicians. Trousseau remarked its frequent occurrence in mild cases, but could not say whether it was a mere coincidence or whether the blue spots were characteristic of a mild form of the disease. Tanner mentioned them as faint bluish stains on the abdomen. Dr. Austin Flint called them bluish patches of irregular form from three to eight lines in diameter, occurring on the abdomen, back and thighs, and thought they were more likely to be found in mild than in severe cases. In 1880, according to the *Medical Times and Gazette*, says the writer, a French physician, Dr. Duguet, stated that these spots were found in a variety of affections, and were more frequently present in young men with gonorrhea than under any other circumstances, if they were not altogether peculiar to this disease. Dr. Duguet also stated that Dr. Mourson had shown them to be due to the presence of pediculi pubis, and the inoculation of the crushed bodies of these insects was said to be capable of producing the spots. The *Medical Times and Gazette* seems to ridicule this opinion, says the anthor, but Strumpell, in his *Text-Book of Medicine*, also ascribes the presence of the spots to the action of the pediculi pubis. Murchison and other writers believe that the rash is not peculiar to typhoid fever.

When Dr. Anderson was at the Alfred Hospital he noticed these blue spots in eight out of nine hundred and fifteen cases. In five of them they were present when the patient was admitted into the hospital, the duration of the disease before admission varying from five to fifteen days. In other cases they appeared several days after—on the fifteenth, twenty-first and forty-second days respectively. In all but one of the eight cases they showed themselves as faint blue, somewhat rounded marks, varying from the size of a pea to that of a threepenny piece. They occurred irregularly, usually on the abdomen and over part of the chest, but occasionally elsewhere—on the buttocks, on the thighs, and once over the scapulæ. They did not rise above the level of the skin, and did not become less distinct on pressure. They disappeared usually in a week or ten days. In one case the spots had a slightly reddish color when they first appeared, the color changing to the characteristic blue in a day or two. In two of the cases relapses occurred, but the spots did not appear during the relapes. Four of the patients had a mild form of the fever, two had moderately severe attacks, and two had very severe attacks. One patient died in four days after admission.

Regarding the nature of these spots, the author could see no evidence of the presence of pediculi. The rash did not occur in patients who were specially dirty. There was no sign of the insect itself, and there was an utter absence of the irritation and characteristic eruption due to the parasite. The marks were subcutaneous, and in three cases developed several days after the patient's admission to the hospital and under circumstances where the strictest cleanliness was observed.

The author had not noticed similar marks on the bodies of patients suffering from other diseases, and had found no mention of them in connection with any disease, except Dr. Duguet's statement that they were

found in patients with gonorrhea. The fact that they have been observed over the course of subcutaneous veins, says Dr. Anderson, would appear to indicate that they are due to some exudation from the vessels, owing, probably, to the altered condition of the blood, which shows itself in the tendency to epistaxis seen in so many cases of typhoid fever at an early stage. They appear, however, to be of very little clinical significance, being seen at all stages of both mild and severe attacks.—N. Y. *Med. Jour.*

The Bismuth Subnitrate of Commerce.—The *Lyon Medical* publishes an abstract of an article on this subject in the *Bulletin de la Societe de pharmacie de Bordeaux*, in which M. P. Carles warns pharmacists against the partiality that they accord to light bismuth subnitrate, and reminds them that in order that the heavy bismuth subnitrate, that is to say, the normal, may exert all its efficiency, it is necessary that it should be administered only in a state of intimate division. The light subnitrate contains a certain quantity of carbonate, which sufficiently explains the relative lightness of the product and its poverty in nitric acid. When the therapeutic action of bismuth sub nitrate is closely studied, it is evidently not a matter of indifference that the proportion of nitric acid is small.

According to M. Gayon, M. Dupetit and M. Dubourg, bismuth subnitrate is a powerful bactericide. It is to this primordial action that it owes those virtues which have been for a long time universally appreciated in gastro-intestinal diseases that are the result of morbid fermentation. The good effects, says M. Carles, which have been obtained from its employment in urethritis come from no other cause. It owes, also, its efficaciousness to the independent action of its oxide and its acid. Of its oxide, because it has the property of saturating the acid supersecretions of the stomach; of its acid on account of the same qualities and, finally, on account of the slow chemical changes which it undergoes in the intestine. From the time it comes in contact with these digestive regions the subnitrate always meets with hydrosulphurous emanations which, although transforming it into the black sulphide, set a corresponding proportion of nitric acid free. Now, because of its own acidity, the nitric acid acts directly on the intestinal mucous membrane as an astringent; but to this topical action its special antiseptic virtues may be added, for, according to M. Duclaux, the presence of a trace of nitric acid in an organic solution arrests the evolution of a great number of microbes and hastens their destruction. Meanwhile, its bactericidal action does not stop there; from the time that it comes in contact in its intestinal course with fresh hydrosulphurous vapors, it is reduced and transformed into nitrous vapors the special antiseptic action of which in regard to the bacteria which secrete putrid gases has been shown by M. Girard and M. Pabst. It will be difficult, adds M. Carles, to deny their presence in the various flatulent forms of gastro-enteritis. That all these conditions may be realized, the oxide of bismuth must bring with it the entire portion of acid with which chemistry has vested it in order to make the isoluble combination known as the subnitrate; again, it is necessary that this combina- should be in a state of exceed ngly fine division.—New York *Medical Journal.*

Therapeutics at the International Medical Congress.—It may happen that the most successful and largest medical congresses are not particularly rich in therapeutic work. Yet, after all, when the heat and smoke of the day are cleared away, one feels that the important query is: Has anything been said or read which will make the treatment of diseases more sure and effective?

We have been looking over the records of the International Congress at Rome, and have tried to find what practical therapeutical suggestions were made at that time.

The result of our study, which has been facilitated by a critical review in the *Gazette des Hopitaux*, have not been very fruitful, nor yet altogether barren. For example, Dr. Petresco, of Bucharest, comes forward again with further facts regarding his treatment of pneumonia with large doses of digitalis. He has employed his method now for thirteen years and treated eleven hundred and ninety two cases, and he has reduced the mortality to 1.22 and 2.66 per cent., while under treatment the mortality ranges from 7.15 to 35 50 per cent.

A year ago we discussed Petresco's method, which consists of giving 8 or even 12 grammes of digital leaves in twenty-four hours. According to the author, it invariably jugulates acute lobar pneumonia in a few days.

Dr. Goffredi, of Naples, calls attention to the value of lactose as a diuretic, particularly in heart disease. It is not so effective in nephritis. Diarrhea is sometime caused by the lactose.

Dr. Pucci praises very highly the use of phenocoll in malaria. He gives from ½ to 1 gramme a day.

After having broken up the paroxysms, the drug is continued five or six days in association with quinine or arsenic. It is also very useful in malarial neuralgia.

A curious contribution to therapeutics is that of Dr. Sanchez Herrero, of Madrid, who recommends a solution of bromide of potassium, 50; iodide of potassium, 5; and water, 500, in the treatment of epilepsy. Dr. Herrero is evidently not familiar with some of the very ancient formulas for epilepsy, including that of Brown-Sequard. We should add that the doctor adds to his treatment hypnotic suggestion twice a week, and that he has cured nineteen cases out of thirty.

Dr. A. Murre, of Bologna, makes a protest against the abuse of cold water in the treatment of chlorosis, but at the same time thinks that cold water, properly used, is better than drugs in this condition.

Dr. Tison thinks that the nitrate of aconitine is useful in facial erysipelas, shortening the attacks and lessening the pain. He gives $^1/_{100}$ grain ten times a day.

Von Ziemssen, of Munich, would have us return to the use of transfusion of blood, particularly in grave anemias.

The best method is the arm-to-arm one without defibrinating, but if this is not practicable, he recommends subcutaneous injection of non-defibrinated blood. This ought to be given under chloroform and followed by massage, as the process is very painful. It is safe to say that a treatment involving regular anesthetization of the patient will hardly become popular, and certainly is not safe.—*Medical Record.*

The Action of Chloroform on the Cardiac Rhythm.—It was shown by the Hyderabad Chloroform Commission that the rapid temporary fall of blood pressure which often occurs when chloroform is suddenly administered is due to a reflex slowing or inhibition of the heart through the vagus nerves. J G. MacWilliam (Prov. Royal Soc, vol. liii.) has worked out the way in which chloroform brings about this and other variations in the cardiac rhythm. He finds, in cats and rabbits, the same two stages in the effect of chloroform on the cardiac rhythm as is observed in man—namely, a stage of acceleration followed by a stage of slowing. These two stages are still manifest after the accelerator nerves are divided. The acceleration, therefore, is not due to impulses reaching the heart by the accelerator nerves. After the vagus nerves are divided, with or without the division of the accelerators as well, the rapid heart-beat consequent on the removal of the restraining action of the vagi can still be slowed down by the action of chloroform, but this is not preceded by any further quickening. The stage of acceleration is, therefore, due to the chloroform more or less paralyzing the inhibitory action of the vagi. That slowing is produced after the vagi are divided, although it is not so great as when they are intact, shows that the slowing is not entirely due to a stimulation, reflex or direct, of the cardio inhibitory center. It is further shown that the slowing is not due to the stimulation of the local inhibitory mechanism of the heart, for the administration of atropine, which paralyzes this mechanism, does not prevent the slowing being produced by chloroform. MacWilliam's researches, therefore, give additional proof of the direct action of chloroform on the heart. He concludes this part of his work with these words: "It appears that chloroform acts on the heart and distinctly slows its rate of beat through a depressing or retarding influence exerted on the intrinsic rhythmic mechanism of the organ." In the remaining part of the paper the relation of the rate of beat to the blood-pressure and the influence of the direct and reflex stimulation of the cardiac nerves is discussed. Reflex acceleration is not due to impulses reaching the heart by the accelerator nerves, for it may be readily obtained after they are divided, provided that the vagus nerves are intact. Muscular exertion causes acceleration of the heart, partly by diminishing the influence of the vagi. Animals with great running and staying powers have a slow pulse, usually markedly restrained by the cardio inhibitory center, and so capable of rapid acceleration by inhibition of that center. This is strikingly seen when the effects of the division of the vagi in the rabbit and the hare are compared. In the rabbit, removal of the vagus influence produces but little change in the rate of beat, while in the hare the pulse may rise from 64 to 264, showing the marked action of the cardio-inhibitory center, and consequent power of rapid acceleration of the heart in the latter.—*British Medical Journal.*

SURGERY.

Hemorrhoids.—The question of the best mode of operating for hemorrhoids has long exercised the minds of surgeons, and it is curious to note the fluctuation of opinion which has taken place at different periods on this subject. Hippocrates strongly recommended the ligature, and this plan was followed by Paulus Egineta. Dupuytren was one of the first to recommend excision, and he was in the habit of practicing this method in all his cases, but as he frequently met with troublesome hemorrhage he recommended that a cautery iron should be applied to the raw surface in all cases where bleeding took place. Sir Astley Cooper was at first an advocate for excision; but having the misfortune to lose several patients from hemorrhage, he altered his views and recommended ligature. Henry Smith, by the introduction of his clamp, did much to popularise the use of the cautery, and the discovery of the handy nature of Paquelin's benzoline cautery served still further to render this method of treatment the one universally employed. As in so many other departments of surgery, however, the pendulum has now swung back again, and at the present time excision is probably the most popular method in use, and for this we are indebted in great measure to Whitehead of Manchester, who has done much to improve the operation, especially by pointing out how to avoid hemorrhage, and to secure primary union. His description of the operation is as follows:

1. The patient, previously prepared for the operation and under the complete influence of an anesthetic, is placed on a high narrow table in the lithotomy position, and maintained in this position either by a couple of assistants or by Clover's crutch.

2. The sphincters are thoroughly paralysed by digital stretching, so that they have no "grip," and permit the hemorrhoids and any prolapse there may be to descend without the slighest impediment.

3. By the use of scissors and dissecting forceps the mucous membrane is divided at its junction with the round the entire circumference of the bowel, every irregularity of the skin being carefully followed.

4. The external and the commencement of the internal sphincters are then exposed by a rapid dissection,

and the mucous membrane and attacked hemorrhoids, thus separated from the submucous bed on which they rested, are pulled bodily down, any undivided points of resistance being snipped across, and the hemorrhoids brought below the margin of the skin.

5. The mucous membrane above the hemorrhoids is now divided transversely in successive stages, and the free margin of the severed membrane above is attached, as soon as divided, to the free margin of the skin below by a suitable number of sutures. The complete ring of pile-bearing mucous membrane is thus removed.

Three hundred operations are reported by Whitehead without a death or a single instance of secondary hemorrhage.

Dr. Arpad G. Gerster records his experience at the Mount Sinai Hospital, and mentions 266 operations for hemorrhoids, of which 156 were treated by the clamp and cautery, 63 by ligature, and 47 by Whitehead's operation. He decidedly prefers the clamp and cautery for the majority of cases requiring operation, but approves of Whitehead's method for severe cases.

At the New York Post-Graduate Hospital the following advantages are claimed for clamp and cautery over all other methods for radical cure of hemorrhoids:

1. The least pain.
2. The quickest recovery.
3. The least vesical and general disturbance.

Dr. Kelsey has used this method exclusively for the last ten years without ever having a serious accident or complication of any sort. "The statement is made simply to offset the statement made by Allingham years ago, that the clamp and cautery is at least six times as fatal as the ligature—a statement frequently repeated, as often challenged, and for which neither of the Allinghams seem ready to furnish any proof, in spite of the fact that when last repeated (by which time the figure had grown to eight instead of six) three public requests for proof appeared almost simultaneously in British journals."

Dr. Kelsey has operated upon 150 cases without a single case of hemorrhage or failure to cure, and with only one case in which the subsequent use of a bougie for contraction was necessary. The patients were generally allowed up on the third day, and many of them left hospital on the fourth or fifth day. He sums up his personal experience as follows:

"If you wish to radically cure your patients with the least possible pain, loss of time, confinement to the house, and risk of accidents—use the clamp and cautery.

"If you wish to accomplish the same result with no more risk, but with more pain, more local and general disturbance, and longer confinement—use the ligature.

"If you wish to take an hour to do what can as well be done in a minute, and gain nothing by it in results—use Whitehead's operation."—W. H. Harsant in Bristol *Med.-Chir. Jour.*

Excision of the Rectum.—There are many cases of carcinoma of the rectum which are too high for removal from the perineum, and too low for removal by celiotomy. Dr. Kraske, of Freiburg, communicated to the German Surgical Congress a method which he had first worked out on the cadaver, and then tried on the living subject. An incision is first made in the soft parts in the middle line from the second sacral vertebra to the anus, dividing the muscular attachments to the sacrum as far as the ends of the bone on the left side; the coccyx is then excised and a portion of the lower end of the sacrum cut away with bone forceps; the attachments of the two sacro-sciatic ligament are next divided from the sacrum, and room thus made to reach the rectum above the levator ani muscle. Or the sacrum may be cut through transversely at the level of the third sacral foramen, and the sacro sciatic ligaments cut through on both sides, when room will be found to introduce the whole hand into the pelvis.

This operation, now widely known as Kraske's operation, has opened up a large field of operative measures for cancer of the rectum, and is now being adopted very freely by German and American surgeons. It has not yet been practiced extensively in this country, but the accounts given of it by those who have tried it are for the most part favorable.

Five cases of extirpation of rectum are recorded by Gerster, four being for carcinoma and one for stricture caused by ulcerative proctitis. Of these five patients, two died in consequence of the operation, both of acute anemia; one suffering from carcinoma, the other from ulcerative proctitis. In both Kraske's operation was done. Two other cases were successful, and also one of removal of the rectum by the old-fashioned perineal method. He advises a preliminary colotomy in all cases where much fecal distress exists, and also insists upon the advantage of the prone position of the patient, with the breech well elevated be hard cushions.

Pilcher mentions six operations with two deaths. Ball gives four cases, all successful.

A remarkably successful case of excision of the rectum for cancer is reported by Dr. H. O. Marcy. The growth was situated two inches above the anus and extended as far as the index finger could reach. Inguinal colotomy was first performed, and then a month later the diseased gut was excised by a modification of Kraske's operation. An incision was made posteriorly, commencing about an inch from the anal outlet, and carried upward on the median line upon the sacrum. The coccyx and two fifths of the sacrum were removed, allowing room to dissect the rectum from its attachment, dividing posteriorly the meso rectum and entering at once into the peritoneal cavity. The rectum was now divided two inches above the anus, and the constricting diseased portion split open upon its posterior border for the double purpose of ascertaining the limitation of the disease and to aid thereby the careful separation of the bowel from its anterior attachments, which to the base of the bladder were everywhere pronounced. The rectum was then divided above the growth, the disease

having invaded about four inches of the bowel.

Dr. Marcy took advantage of a suggestion by Dr. H. O. Walker, of Detroit, and made use of a large sized Murphy button which he had had specially made to hold together the divided ends of the intestine. The use of this button was most satisfactory. Complete union of the gut eventually took place, although a sinus remained for a short time. The button was removed on the twelfth day with a little difficulty, not having freed itself quite entirely from its attachment; but its removal was hastened because pressure of the button upon the neck of the bladder caused discomfort and some difficulty in urination. The patient was discharged from the hospital on the twentieth day, and when seen three months afterwards remained free from disease and in improved health. The inner portion of the bowel was marked by an elastic constricting ring, readily admitting the finger.—W. H. Harsant, in Bristol *Medico Chir. Journ.*

Discussion on Hernia at the Late Meeting of the American Medical Association.—An elaborate programme had been prepared for the Surgical Section of the American Medical Association at the San Francisco meeting, in which the subject of hernia was designed to take a prominent position.

The plan of providing a number of formal papers up on a specified subject and the selection of those who are to be prepared to lead the discussion, will commend itself to all. It must be conceded, however, that in this discussion on hernia the results have been disappointing.

Many of the papers were read by title only; and most of the contributions actually prosented showed signs of the hasty performance of a perfunctory duty, without such care and preparation as the dignity of the occasion demanded. Almost nothing of statistical value was produced.

The most creditable and practical essay presented was that of Dr. Joseph Ransohoff, of Cincinnati, on the "Treatment of Strangulated Hernia."

The writer advises early operation in all cases of strangulation, and shows that in a large number of mortal cases, death was induced by causes preventable through early operation. This timely contribution is a painful reminder that despite the vaunting of enthusiasts on abdominal surgery, it remains an open question whether or not of late years any substantial progress has been made in the surgery of the intestine. For instance, McCosh is represented as placing the mortality of artificial anus for gangrene of the bowel at fifty per cent; Kenno Schmidt gives a mortality of eighty five per cent for resection of the intestine; and of 168 cases of gangrenous intestine, Mikulicz reports 109 deaths.

Dr. Ransohoff believes that an operation for strangulation is not in itself dangerous to life. The diminished mortality of more recent years, he thinks, is due largely to an early interference, and the mortality may be further reduced by avoiding such causes of death as heart failure and pneumonia, by the substitution of local or general anesthesia. He says:

"With my present knowledge the deaths from heart failure and pneumonia might have been averted by substituting cocaine for general anesthesia. * * * In a case recently seen I have made the relief operation, removing a mass of the omentum as large as a walnut, and returned the intestine without inflicting enough suffering to elicit a moan."

This point is not sufficiently emphasized. Manley, in his recent work on hernia, recommends cocainization as a local anesthetic in operation for all cases of strangulated hernia, claiming thereby a reduction of operative mortality to nil, unless the bowel is actually gangrenous at the time of intervention. Indeed Manley claims something more than pain-killing power for cocaine in operations for strangulated hernia, for he alleges that it prevents vomiting, acts as a local hemostatic, and makes the surgeon so master of the situation that he needs no assistance other than the patient himself can provide.

If the local use of cocaine in strangulated hernia is what Manley claims for it, its general adoption in this class of cases will constitute a very substantial advance in the operative treatment of this condition

It is unfortunate that even this phase of the subject did not receive more attention at the California meeting; for if local anesthesia provides safeguards to life, and is without immediate or ultimate peril, it should be made known to the profession, and be at once adopted in all suitable cases in which hernia becomes complicated and menaces life.—*Med. and Surg. Reporter.*

NOTES AND ITEMS

A Medical School for Women is to be established at St. Petersburg through the initiative of Prince Wolkowski, the educational representative of Russia at the World's Fair in Chicago.

The Employment of Sponges in Surgery.—At a recent meeting of the Academie de Medicine, a report of which appeared in the *Journal des Praticiens*, M Guermontpre, of Lille, read a paper on this subjects. After having recalled the advantages and the inconveniences of the sponge from an operative point of view, the speaker related a series of experiments which he had instituted in order to investigate the necessary conditions for the absorption of sponge fragments left in the various tissues of the animal economy. The length of time necessary for this absorption among dogs and rabbits varied from fifteen days to a month, and a sponge of the size of an egg had disappeared at the end of five months. The sponge becomes changed in its structure, it loses its elasticity and color; it becomes granular and finally disappears entirely. Of all the tissues, the connective tissue presents the greatest absorbent faculty.

M. Bernard Paulet had made use of this knowledge by grafting small fragments of sponge on ulcers of the leg. In all cases the sponge had acted in the same way, the fragments becoming modified and adherent, and finally absorbed, while at the same time the sore had changed its aspect and had begun to granulate.

M. Guermontpre afterward cited two cases that had come under his observation in which extensive excavations of the tibia had been treated by grafting with fragments of sponge. In these two cases the osseous lesion, which was very extensive, had followed the elimination of a deposit. The first case was that of a boy, ten years old, in which the sore had been sown with small fragments of sponge. It had rapidly become modified, begu to granulate, and healed, while the sponge had disappeared. The second case was that of a young man, nineteen years old, who had shown symptoms of scrofula. There had been an enormous loss of osseous substance, which it had seemed almost hopeless to try to repair by the ordinary means. There had been, furthermore, a complete retraction of the extensor muscles of the feet. Half of the wound was sown with a large fragment of sponge, and the other half with small pieces. The sore had healed, and the lost portion of tibia had been completely restored. The half of the cavity which had been sown with the small fragments had healed more quickly than the other half. The speaker had also tried the use of sponges in cavities following purulent pleurisy, but without good results; the sponge had not even become adherent. It was the same in wounds due to ulcerated neoplasms.

On the other hand, M. Lombard, of Solesmes, had obtained excellent results in extensive ulcers due to burns. In all cases of recovery the cicatrix obtained had presented a remarkable resistance and elasticity. M. Guermontpre remarked that the sponge did not act well except in wounds that had been thoroughly disinfected in the beginning; in suppurating wounds of those following neoplasms the sponge did not act at all.—New York *Medical Journal.*

Sewer Gas.—At one of the general sessions of the Congress of American Physicians and Surgeons the subject of sewer gas was introduced and the old ideas on the poisonous character of sewer gas were completely refuted. The test showed that sewer air does not vary very markedly from the air we ordinarily breathe, except that it contains slightly less oxygen and more carbonic acid gas; and that it contains very few bacteria, which is in strong contrast to what is popularly taught.

Many mistakes is teaching are due to falsely preconceived ideas and vague impressions which have no scientific basis. Sewer air contains few pathogenic bacteria because the non-pathogenic bacteria act antagonistically to them; again, the few bacteria in sewers are kept adherent to the sides of the pipes because of the moisture. Experiments on the pressure of sewer gas would seem to show that there is very little pressure and the flow is almost always toward the mouth of the sewer and not backward, as has so often been affirmed.

Experiments in the laboratory with sewer air and liquids in closed vessels containing bacteria showed that it was very difficult to displace the bacteria from the liquid unless by very strong agitation of the latter, and even when active bubbling and effervescence was caused in the liquid, and, as sometimes occurs in sewers, very few bacteria were set free. This would prove that even if there were backward currents of air (which rarely occur), they would have to be very much stronger than they usually are to diplace bacteria and carry them into buildings and houses.

The effects of sewer gas on children and on the throat were considered. The theory evolved from an old man's brain, that children having their mouths near the ground were much more liable than adults to inhale bacteria, was considered absurd. It was shown that sewer gas does not cause diphtheria, but a case of diphtheria may undoubtedly be aggravated by exposure to sewer exhalations, and certain forms of throat disease are made worse by the presence of sewer gas.

The attempts to show the harmlessness of sewer gas were rather extreme, and while the work of these scientific papers was not complete, the general inference drawn from them and from the discussions which followed was that sewer gas is hardly more unwholesome than ordinary atmospheric air, and that there was even a tendency to overstep the mark by those speakers whose work was not of an experimental character.—*Mo. Med. Journal.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Removal of Intestinal Calculus by Laparotomy.

BY HENRY HALL, M R.C.V.S., MANCHESTER.

Although there was not a successful termination of the undermentioned case still it may be of some interest to your readers.

I first saw the subject of these notes, a nine year-old brown cart mare, at noon on August 9; she was then showing signs of slight abdominal pain; pulse only

slightly quickened but rather hard; temperature normal; the driver informed me she had been purging all the morning. The case was treated in the usual way but made no progress towards recovery, and I came to the conclusion from symptoms presented that there was some mechanical obstruction, but although frequent examinations with explorations per rectum were made, the exact nature of the obstruction could not for a time be determined. On Monday night, August 13, when examining the rectum the mare began to strain (she had been doing so at times during the afternoon) and after a while I was able with the tips of my fingers to touch a calculus; I not unnaturally thought that my trouble was nearly at an end. However I was gradually undeceived, for in spite of all my efforts it could not be moved, and I became further disconcerted by discovering close to the stone a rupture of the mucous and partly of the muscular coats of the bowel, of perhaps a couple of inches in length. On Tuesday morning there was very little change except that the rectum was swollen, the lumen of the bowel being much reduced and consequently also all chance of removing the obstruction per rectum was at an end. I was able to ascertain that the stone had not moved, and that the rupture was now about four inches long running transversely to the bowel. I came to the conclusion that the case was hopeless, for if the stone by any means came further back it would undoubtedly go through the bowel wall. I explained the situation to the owner, and told him the only way of removing the offending body was from the flank. As I could give him very little hope of saving the patient's life (she was now much exhausted, temperature 102; pulse 80, much weaker and wiry) I had some difficulty in persuading him to have it done. I have refrained from going into elaborate details of symptoms and treatment as my object is not to consider the case from this point.

Having obtained the valuable assistance of my friend, Mr. Wolstenholme, the opportunity was seized when the mare was down to secure her feet and administer chloroform. An incision about eight inches long was made through the skin of the right flank in a downward and forward direction from the neighborhood of the anterior process of the ilium; the bleeding was then stopped by hot water applications, as it was after dividing each succeeding layer of tissue; these layers were: a little muscular tissue, about one and a half inches of fat, then about two inches more of muscle and then the peritoneum. We had now a very formidable looking wound about four inches deep. The peritoneum was carefully cut, and I was able to explore the abdominal cavity. After a little searching, the force of gravity having caused the bowel to drop towards the left side, I was enabled to bring the gut enclosing the calculus through the aperture; it was considerable discolored by inflammation. An incision six inches long was made, and the calculus, of irregular shape and about two pounds in weight, was removed. The gut was well cleansed, sewn up with carbolized catgut by the continuous suture, and returned into the abdomen. Very strong pin and silk sutures were used to make up the wound in the skin. The divided edges of the muscle from the nature of the incision came well together and were not sutured.

The patient was allowed to come out of chloroform and in about a quarter of an hour got on to her feet, having been down about one and a half hours. She seemed much the same after the operation as before, with the exception that she showed no signs of pain and that she took a little gruel— the first food she had taken voluntarily for five days, walked round the box and seemed quite cheerful and passed a small quantity of foul smelling feces.

On a post mortem examination being made it was found that the seat of mischief was about four feet from the anus. The bowel was much discolored for about eighteen inches on either side of the wound, where it was somewhat dilated in the form of a pouch; the stitches well intact, and the partial rupture as expected, a little, very little diffuse peritonitis.

I attribute death to exhaustion as the result of the six days' suffering, and think that if the operation affected her in any way it prolonged life a few hours by relieving the pain. Whether she would have survived if it could have been done earlier, and if not what would have been the most serious obstacle, is, I think, a very interesting question. For myself I should have the greatest anxiety about the sutures in the bowel giving way before a complete union had taken place, and it would certainly cause me more uneasiness than the fears from peritonitis. I should like to know what is the record with regard to the operation.

The antiseptic used was carbolic acid, everything of course kept scrupulously clean, and no blood allowed to drain into the abdominal cavity.— *Veterinary Record.*

The Nature of the Respiratory Movements in Hydrothorax.

BY VET. CAPT. F SMITH, A.V D , ALDERSHOT.

There would be few people of any experience inclined to deny the value of the character of the breathing in determining the presence of effusion in the chest of horses.

I have certainly met with cases where the breathing never really aroused my suspicions, and yet fluid was found in the chest post mortem, but in the large bulk of the cases it is otherwise, and a change in the character of the breathing is an ominous symptom in acute pleurisy.

The peculiar character of the breathing has long been recognized, and I think I am correct in saying, quoting from memory, that it has been described in our textbooks as resembling that of broken wind, and to an extent this is true.

If, however, we carefully watch the breathing of a

horse the subject of a well-marked pleural effusion, certain peculiarities are present which do not exist in broken wind. In the latter disease we have a well-marked inspiration followed by a double extirpation, with a distinct interval of time between each extirpation, and the respirations are labored and much faster than normal; in pleural effusion we have a labored respiration, a peculiar double see-saw movement of the abdominal wall but no double expiration.

The point on which I would insist as a distinction between the two respirations is that broken wind has a double expiration, pleural effusion has not.

Yet there is a double movement in the abdominal wall of the horse with effusion which requires some description and explanation.

During normal inspiration the diaphragm, principally at its upper half and sides, recedes and carries back with it whatever is behind it, viz., liver, stomach and bowels, so that at every inspiration and expiration these organs are moving backwards and forwards with the diaphragm, to an extent which is greater above than below, but at its greatest does not probably exceed four or five inches.

In pleural effusion there would be no difficulty in the diaphragm receding were it not for the almost invariable adhesions which by this time the lungs have formed with it, and even these adhesions would not necessarily prevent it, were it not for the partially collapsed condition of the lungs which prevents them from expanding and keeping touch with the diaphragm and chest wall.

These factors, therefore, prevent the lungs from following the diaphragm backwards, and further they limit the movements of the diaphragm, the result being that there is a distinct difficulty in inspiration, which is intensified by the fact that the patient is by no means anxious to fill his lungs with air.

When effusion has occurred the short difficult retreat of the diaphragm becomes hastened by the pressure of several pounds of fluid on its anterior surface, and willing or unwilling the diaphragm is carried back to a greater degree than before effusion.

If we watch a horse with hydrothorax inspire, it will be found that the first movement of inspiration is not a relaxation of the abdominal wall but actually a contraction or ascent of it, in fact it looks like the movements of expiration instead of inspiration.

But the entire abdominal wall does not ascend in hydrothorax inspiration; sometimes (and on this point my notes are at variance) it is the anterior, sometimes the posterior half; viz, sometimes the ascent is in front of the stifle, at other times behind the sternum, but at whichever of these two places the upward movement occurs, a downward movement at the same time follows at the other end. Speaking with all needful caution, I think it will be found that as a rule the anterior abdominal wall behind the sternum goes up during inspiration rather than the posterior.

The drawing up of the abdominal wall is caused by the rectus muscle, and a ridge is produced along the edges of the cartilages of the false ribs, along which a wave propagates itself in the direction of the flank; we will speak of this ridge as the costal ridge. The contracted abdominal wall representing inspiration now suddenly drops, whilst the opposite end ascends; this ascent is expiration, which is carried out slowly by the abdominal muscles being drawn up under the cartilages of the ribs, and pressing the upper part of the flank outwards.

I can make no positive statement as to whether the anterior or posterior abdominal wall is the first to go up in inspiration, or whether the costal ridge is more prominent at inspiration or expiration, because, as I have inferred, my notes on the subject do not agree, but I can be positive on the point of practical interest that inspiration in hydrothorax is attended by a drawing up of the abdominal wall, which makes it look exactly like an expiration instead of an inspiration.

Speaking generally, and in broad terms, and designating the abdominal wall anteriorly placed as A, and that in front of the stifle as B, we may say that A goes up in inspiration whilst B descends, B goes up in expiration whilst A descends. Thus we have a see saw like movement with a well-marked costal ridge above, and an inward and outward movement of the hollow of the flank just in front of the anterior process of the ilium, which in my experience is diagnostic of pleural effusion.

That the chest should have some difficulty in emptying itself of air is readily understood, the weight of fluid on the anterior surface of the diaphragm must prove an obstinate mechanical factor, especially as the further the diaphragm advances, the higher the fluid rises which is pressing against it; the difficulty of expiration requires no further explanation, but the peculiarity of inspiration cannot be so lightly dismissed.

Why should any part of the abdominal wall contract during the inspiration of a patient with pleuric effusion?

I must confess that my answer to this question is imperfect, but it appears to me that a possible explanation may be as follows: We know that respiration can be carried out without the use of the abdominal muscles, viz., solely by the diaphragm and the elastic recoil of the lungs. During an attack of pleurisy the respiration is mainly short and diaphragmatic, and in this way movement of the ribs is to an extent avoided. When effusion occurs the pressure on the anterior face of the diaphragm is such that a deeper inspiration would be taken than the animal likes, but to avoid this undue retreat of the diaphragm the abdominal muscles contract, and force the abdominal contents against the diaphragm and so steady its retreat; by this time the amount of air having been taken in, the abdominal wall drops suddenly and expiration follows in the ordinary way.

I conceive, therefore, that in the patient with hydrothorax the contraction of the abdominal wall during inspiration is to steady the retreat of the diaphragm, and prevent it being hurried back by the enormous pressure exercised on its anterior face by the weight of a few gallons of fluid.— *Veterinary Record.*

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ORIGINAL ARTICLES

Intubation.

BY LOUIS HAUCK, M D

Read before the St. Louis Medical Society, October 20, 1894.

MR. PRESIDENT AND GENTLEMEN—Intubation of the larynx is an operation which has long been attempted, but in its present perfected form it is distinctively American, and we owe it to the ingenuity and patience of Dr. Jno O'Dwyer. It is an improvement upon trache otomy and is rapidly taking its place in the treatment of many forms of laryngeal stenosis. It is chiefly performed in diphtheritic and membranous croup, occasionally for symptoms produced by scalds or burns, for foreign bodies and for the presence of tumors, espe cially those located outside of the larynx. It may also be used in certain cases of ulceration and stenosis, the tube in this instance acting as a permanent dilator. I have had no experience with it except in cases of diphtheria and croup, but saw one case where the tube had been worn many months, by a boy about seven years old, for a recurrent growth in the larynx.

Intubation is a painless and bloodless operation if dexterously performed, and chloroform is never necessary. It takes but the fraction of a second to insert the tube after the rew necessary preparations have been made.

The distinct advantages of intubation over tracheotomy are ease and speed of operation, absence of blood, pain or shock. There is no need of skilled assistants during the operation, or of trained nurses after it. There is no wound to increase the dangers of septicemia or to prolong convalescence. There is no disfiguring scar. The number of recoveries is greater and recovery more rapid and complete. The consent of parents easily obtained and the operation is made earlier. Tracheotomy is too often made as a last hopeless resort. After intubation there is no need of changing the surroundings of the patient, while after tracheotomy the room must be kept warm and moist on account of the more direct entrance of the air to the lungs. There is no filling up of the tubes with mucous, necessitating attention and watchfulness. In one of my cases of tracheotomy the nurse went to sleep and when she awoke the child was dead. The tube had closed up entirely and caused suffocation. The only disadvantage of intubation is the fact that deglutition is difficult while the tube is in place and for several days after its removal. This can be almost entirely overcome, however, by feeding the patient with a spoon while in a recumbent position, the head being as low as or lower than the body, and by giving only fluids or semi-fluids, such as raw eggs beaten, ice cream, gruels and milk. Anything containing lumps, crumbs or seeds should be avoided.

Local and systemic treatment must, of course, be kept up just as before the operation. Alcohol and strychnia are advisable in all cases where the heart shows signs of weakness. The tube should be removed in about seven days unless expelled earlier.

Up to October, 1891, I had performed seven intubations, with four recoveries. One died thirty-three days after operation of pneumonia and should be counted a success as the death was not directly due to the disease for the relief of which the operation was performed. Two cases died within twenty-six hours after operation; the one, a three year old girl, died of heart failure; the other, a boy seven years old, who had been sick with diphtheria seven days before croup set in, died of exhaustion and probable extension of the membranes to the bronchial tubes. Since that time I have kept no record, but have operated a number of times with about the same average of recoveries. Have made but five tracheotomies with two recoveries.

The only time there is any excuse for making tracheotomy in a case of croup, is when the intubation instruments cannot be procured. I am convinced that any case of croup that does not recover after intubation could not have been saved by tracheotomy. I do not claim that intubation will cure the disease, but it does immediately relieve the symptoms, namely, those of suffocation, and thereby gives us an opportunity to cure the disease by proper medication. In diphtheritic croup tracheotomy is nearly always fatal. I have yet to see a successful case where the throat and nose were involved.

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Since reading the above paper I have come across a report by Dr. Dillon Brown, of New York. In it he records 651 intubations made by himself, with 32 per

cent recoveries. He also refers to the statistics of McNaughton and Maddern, who report as follows: Reports were received from 242 physicians in different parts of the country. There were 2417 tracheotomies, showing 586 recoveries, or 24.2 per cent; and 5546 intubations, showing 1601 recoveries, or 30.5 per cent, or 6.5 per cent in favor of intubation. They also report that "calomel fumigations" have materially increased the percentage of recoveries in both tracheotomy and intubations.

The Glycerine Suppository as a Substitute for the Glycerine Tampon.

BY J. T. GRAHAM, M.D., WYTHEVILLE, VA.

Read before the Virginia Medical Society at Richmond, Va., October 25, 1894.

Glycerine is one of the oldest as well as one of the most universally used agents in the treatment of inflammatory conditions of the uterus. The tampon of wool or cotton is usually made the carrier for this and other medicinal agents of value that are applied to the inflamed cervix. Three-fourths of the women who apply to the physician, not the abdominal surgeon, for treatment of uterine diseases have their cervices painted with iodine, and then a glycerine tampon placed with instructions to remove it in twenty four hours, to use a hot vaginal douche, and to return in two or three days for a repetition of the same treatment. This is varied according to the whims of the individual operator and kept up for several weeks or months until the patient is either cured or, what is more common, a chronic inflammation of the uterine center in the brain is produced, and then the patient begins her rounds from one physician to another, suffering many things of many doctors, until she is a fit subject for the abdominal surgeon or the lunatic asylum.

In the earlier stages of these cases the congestion can be relieved by applications of glycerine, and the above mentioned sequelæ prevented if the applications are not kept up for too long a time and the impression made on the mind of the patient that she must have treatment indefinitely. The only way in which glycerine relieves congestion of the uterus and its adnexa is by depleting the engorged vessels of these organs by means of the process of osmosis brought about by the great affinity glycerine has for water. Reasoning from this fact as a premise I reached the conclusion that glycerine in the solid state would have a greater effect upon the inflamed parts to which it might be applied, because it would take up from the engorged vessels a greater amount of water, or serum, than when applied in the liquid state and the effect of each application would be more prolonged on account of the gradual dissolving of the glycerine. To verify my conclusions I introduced into the vagina, close up to the cervix, an ordinary rectal glycerine suppository and held it in place by a pledget of wool. The effect was much superior to that of the glycerine applied with the tampon. I then had made suppositories one-half inch in diameter and one and one half inches long, sloping to a point in the shape of a cartridge. Each suppository contained from one to two grains each of alum and thymol. When one of these suppositories is introduced into the vagina and held in place by a pledget of wool the engorged vessels of the uterus and its adnexa are depleted by a copious flow of serum that is produced and kept up for thirty-six or forty-eight hours, and the alum and the thymol have an astringent and antiseptic effect upon the relaxed walls of the vagina and inflamed cervix.

The advantages of the glycerine suppository over the glycerine tampon may be stated under the three following heads:

1. Easy application, as it does not require the use of the speculum to place it.

2. Its greater and more prolonged effect on the parts to which it is applied, its action extending over a period of at least thirty-six hours.

3. It can be used in the treatment of the virgin without the use of the speculum, and this I consider its chief merit. I have never been able to understand why a virgin should not be treated locally for uterine disease, if she need treatment, as well as her married sister. Of course she need not be mutilated or abused, but if there were more sense and less sentiment used in treating the virgin for uterine disease there would be fewer married women with chronic utero-mania to wear out the patience of both the husband and the doctor. The glycerine suppository can be inserted into the vagina of the virgin without a speculum and will remain in place without the pledget of wool; or if it seem best the patient can be taught to apply it herself and thus be saved from the trying ordeal of an examination so graphically described by writers on Gynecology whose practice is not seldom contrary to their published statements.

See Special Offer, on advertising page 9, of Cheap Medical Books.

Longevity and Drink.—The British Medical Association has been investigating the question of longevity in connection with the use of alcoholic beverages (*Medical Record*). Deaths to the number of 4,234, taken at random, show the average age of temperate drinkers to be sixty-three years; careless drinkers, fifty-nine years; free drinkers, fifty seven years; intemperate drinkers, fifty-three years; total abstainers, fifty-one years. The analysis in the case of those who reached the age of over eighty shows that fifteen per cent were total abstainers, ten per cent heavy drinkers, and seventy-four per cent moderate drinkers. Of those who lived more than ninety years, fifteen per cent were total abstainers, nine per cent were hard, and seventy-five per cent moderate, drinkers. These figures must be applied with some caution. A certain large proportion of total abstainers are so, because of some form of ill-health or natural weakness.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Of this issue of the REVIEW we mail many thousand sample copies, hoping thereby to largely increase our already large list of subscribers for the comming year. To non-subscribers who receive a copy we desire to state that we will spare neither time nor expense in our efforts to make the REVIEW all that the name implies: a complete resume of medicine and surgery, keeping fully abreast of the progress made in all the departments of medicine.

Our subscription price is $3 50 a year which is as low as a live weekly journal ought to be furnished for, however to those who will avail themselves of this special offer for the year 1895, and who will mail us a card at once we will send them free the remaining six numbers of this year, and for the year 1895 will mail them the REVIEW for the regular subscription $3.50. Realizing as we do the difficulty of doctors collecting promptly, we will not present the bill to them until November, 1895. Now, doctor, if you will avail yourself of this liberal offer, simply drop us a postal card indicating your acceptance of our proposition.

The Future of Medicine.

From nearly all the civilized European countries favorable results continue to be reported in the treatment of diphtheria by Behring's Heilserum and the most sanguine hopes have been expressed with regard to the probable consequences of analogous therapeutic procedures upon the future of medicine.

It may be argued that if individuals with little resisting power in consequence of an inherited or acquired weakness, escape death from diphtheria, they will, sooner or later, succumb to some other disease. There can be no doubt that everybody has, some time or other, been exposed to infection of all the more common infectious diseases and the fact that no infection took place was due to the insusceptibility or natural immunity of the individual. The aim of the medical profession should be to instruct the public that the life of the people, collectively and individually, should be so regulated that the organs and the tissues of the body are in a condition that an infection, when it does occur, is readily counteracted by a protective reaction of healthy resp. immune tissues and fluids of the body. We are aware, however, that with the present propensities of the human race this ideal state of health will be for many generations, if not for all times to come, an impossibility, and we have to place our hopes therefore as much upon curing as upon preventing disease.

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Public hygiene has done much to decrease the chances of infection with disease germs and will, without doubt, do more in the future; nevertheless will it be impossible to destroy entirely infectious material by public sanitation and the bulwark against the inroads of disease will continue to be the living of a rational and natural life. Immunization of the tissues by a prudent life will be of greater importance than all the immunizing materials that may be produced by the bacteriologists of to day and of the future.

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Whilst we are justified in the hope that in the future the majority of infectious diseases will be prevented or cured by analogous methods as the injection of antitoxines, vaccination, resp. inoculation, it remains to be seen whether such procedures will not influence the body injuriously in some way or other, and possibly predispose the same to other, at the present time, unknown diseases. It is a well-known fact that the toxines developed by some diseases, for instance scarlet and typhoid fever, cause a parenchymatous degeneration of the internal organs, heart, liver and kidneys, and whether the antitoxines that are to play an important role in the therapy of the future will be free from injurious effects upon the tissues, will have to be investigated by exact observation and experiment.

With regard to the injection of Behring's serum, we are glad to learn that no injurious effects have so far been reported and experiments upon the lower animals have proven that the kidneys are not affected by this method of treatment. The present indications are that the success of the antitoxine treatment of diphtheria will have a revolutionizing effect upon the science of medicine.

The New Coroner of St. Louis.

The election of Dr. Atkinson as Coroner has been hailed with much satisfaction by the medical profession of St. Louis. It is high time that merits as a man and citizen and capability to fill an office with honor to the incumbent himself and to the profession represented by him should influence the voters rather than the machinations of political demagogues. If the hard times have had no other beneficial effect than to wake up the better element among the citizens of this great country to do their duty at the polls and cast their votes intelligently and independently of any other motive than to work for the welfare of the American people as a whole without being influenced by the demands of wire pullers or having other selfish purposes in view, they will prove in the future to have been a blessing instead of a calamity.

BOOK REVIEWS

The International Medical Annual and Practitioner's Index. A Work of Reference for Medical Practitioners. 1894. New York and Chicago: E. B. Treat. St. Louis: J. H. Chambers & Co., 914 Locust Street. Price, $2.75.

As a book of reference regarding the work done in the principal branches of medicine this book is of great value to the practitioner who cannot spend the time to consult more voluminous works. All the more important contributions to medical science are recorded in a concise, clear and impartial manner. It contains a great many plain and colored illustrations and the general make up of the book is good. It will prove a great aid to those that wish to inform themselves in as short a time as possible on the newest medical literature of any merit.

Weekly Medical Review Pocket Reference Book and Visiting List. Perpetual, for 1895. St. Louis, Mo.: J. H. Chambers & Co., Publishers, Price 75 cents.

In compiling this little reference book the editor has endeavored to keep in mind the wants of the practitioner at the bed-side, and to gather together here such matters as will be most helpful in every day or occasional emergencies which he encounters. It is not the intention to supply the place of larger books of reference, but merely to aid the memory in such directions as experience has shown special need. It is believed that the arrangement of the printed matter and of the blank pages is such as to make this the most convenient visiting list now offered to the profession.

The following is a partial list of Contents:

Calandar for 1895; Preface; Table of Signs how to keep Visiting List; Prediction of Date of Confinement; Artificial Respiration; Care of Galvanic Batteries; Disinfectants; Clinical Examination of Urine; Chemical Examination of Urine; Poisons and Antidotes; Tables of Doses; Doses of Medicine for Children; Table of Equivalents; Comparison of Thermometric Scales; Decimal or Metric System of Weights and Measures; Diet Tables for Diabetics; Diagnostic Table of Eruptive Fevers; 56 pages for Visiting List; 24 for pages Memoranda; 1 page for Nurses' Addresses; 6 pages for Clinical Record; 12 pages for Obstetric Record; 6 pages for Birth Record; 2 pages for Vaccination Record; 6 pages for Bills Rendered; 6 pages for Cash Received; 12 pages for Miscellaneous Memoranda; 2 pages for Articles Loaned; 6 pages for Death Record.

It is printed on the finest paper and bound very neatly in Leather, lapel pocketbook style, making it very convenient, and not bulky to carry in inside pocket.

Local Anesthetics and Cocaine Analgesia, in General Surgery. By THOMAS H. MANLEY, A.M., M.D., New York. Cloth, $1 50. Pp. 200. 1894. St. Louis: J. H. Chambers & Co.

This treatise is the only one of its kind which deals with the whole subject of local anesthetics and the multifarious uses of cocaine in surgery in the English language.

The author begins with a history of local anesthetics, their manner of application, their advantages and disadvantages, and the cases appropriate for their employment.

The subject of cocaine is exhaustively considered in connection with the regional surgery of the body, in traumatisms and pathological conditions, in subcutaneous, endermic, hypodermic and surface employment, in the cellular tissues and on the mucous membranes.

In a separate chapter the writer indicates the value of cocaine in gynecological surgery, thereby showing how it may entirely supplant pulmonary anesthetics in all plastic, reparative operations on the external and vaginal genitals.

The same is done with the subject of naso-pharyngeal, rectal and genito-urinary lesions requiring surgical operations.

Considerable space is given to the use of cocaine in operations for strangulated hernia, tracheotomy and amputations, major and minor.

The toxic qualities of the drug are considered and the best means of preventing or neutralizing them are fully described.

The author claims that by the rational and judicious use of cocaine, hypodermically employed, operations are much simplified, assistants may be dispensed with, and pulmonary anesthetics set aside in all but occasional and unusual cases.

The author has very appropriately dedicated this lit-

The price of the book places it within the reach of every practitioner. Such a valuable addition to the literature and science of surgery from an American source will, no doubt, be aptly appreciated and supported.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Oct. 20, 1894, the President, W. B. OUTTEN, M.D., in the Chair.

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DR. HEINE MARKS presented a specimen of "Thoracic Aneurism," and read the following history of the case:

John C., 55 years old; nativity Ireland; laborer; single; knows absolutely nothing about his family history. Habits good.

Previous History.—Five years ago patient was knocked down by a horse, the animal stepping on his back. Was in the hospital several weeks with several fractured ribs. Had venereal sore, which was not followed by any further evidence of specific infection.

Present Trouble.—Began soon after injury. Had some pain posteriorly on the left side of chest over the cardiac region, also in the legs and back. Dyspnoea on exertion, which lasted several weeks and has grown continually worse. No headache or edema. Since in the hospital last July, the patient was much improved. During the last two weeks he has been getting worse, having dyspnea when quiet. Left lateral decubitus alone possible. He coughed continuously, which was aggravated by eating and drinking and accompanied by excessive expectoration of frothy mucous mixed with blood. Patient was hungry, but had some difficulty in swallowing, doubtless due to pressure of the aneurism on the esophagus.

Physical Examination.—Dullness upon percussion extending down along the left side of the sternum, and posteriorily on the left side from the sixth rib down below the eighth and around to the posterior axillary line. No change with position. Vocal fremitus and resonance diminished. At angle of scapula there was somewhat of a tympanitic quality of percussion note over a small area about the size of a dollar. Slight dullness but distinct tubular breathing posteriorily at the left apex. Heart enlarged, apex below and a little to the left of the nipple, whole area bulging at each beat. Distinct systolic murmur heard at apex which was transmitted over entire chest, but could be best heard at the transmitted over the entire chest. No separate murmur heard along the aorta. Pulse very weak, no difference between the radial and posterior tibial arteries.

Urine.—1016, acid, light color, no sugar, slight trace of albumen, no casts.

Diagnosis.—Aneurism of aorta.

Patient died, Friday, October 19, 1894, at 2:10 A.M.

Post-Mortem.—Held on October 19, 13 hours after death. Rigor mortis fairly well developed. Body emaciated; hair and beard gray; skin pale and subcutaneous veins prominent. No external signs of injury.

Body opened by median incision from the neck to pubes, the incision passing to the left of the umbilicus. Sternum and costal cartilages raised. About 300 c.c. of clear serous fluid in both sides of the chest, and 100 c.c. of fluid of the same character, containing considerable flocculi of fibrin, was found in the pericardium. On the left auricle and both auricular appendices was a fibrinous exudate, and the pericardium pressed against and was adherent to the left auricle over a dark area about the size of a silver quarter. The heart was flattened antero-posteriorly by a tumor which lay behind it. A number of old pleuritic adhesions were found on right side and the left lower lobe of the lung was pushed against the lateral wall of the chest and bound down by a thickened and adherent pleura.

All the thoracic viscera were removed in a mass from above downward, beginning at the larynx. When they were removed down to the eighth dorsal vertebra, a tumor was found firmly adherent to the bone. The body of the nineth, tenth and eleventh vertebræ had been largely absorbed by the tumor which extended from the eighth to the twelfth dorsal vertebra. The tumor was about the size of a fetal head, three inches in diameter, and pressed against the heart. It was torn in removal and found to be a fusiform aneurism of the descending thoracic aorta. It was filled by a firm laminated clot, except the central channel for the blood stream, which was somewhat larger than the aorta and contained a post-mortem clot. The aneurism was also pressing against the esophagus. Lungs, spleen, liver and kidneys normal.

Cause of Death.—Thoracic aneurism and peri carditis.

DR. A. H. MEISENBACH thought that there could be no doubt that this aneurism was of traumatic origin. The injury to the vessel probably caused a circumferential lesion of its walls and a fusifirm aneurism resulted instead of a sacculated one. The reason why this patient died from some intercurrent cause may be accounted for by several reasons. First, in fusiform aneurisms all the coats of the vessel are involved, there is a uniform circular dilatation, and, consequently not so great a liability to rupture as in sacculated dilatations, where only a small spot of the vessel is implicated and the wall of the tumor thinner in consequence.

Secondly, by a conservative process, re establishes the normal diameter of the vessel by filling in the dilated portion by a firm clot, thereby increasing the resisting power of the wall. Thirdly, the position of the tumor caused it to be pressed upon from all sides, as a result of which its further dilatation was counteracted still more.

Treatment, in cases of this kind, is without avail. Needling, electro-puncture and the introduction of wire have been without result.

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Dr. Robert Funkhouser presented a specimen of "Colloid Tumor of the Thyroid Gland." The tumor was removed last July, but it had been aspirated once before. The permanent result was not good as the tumor rapidly refilled. The growth had existed about 19 years, occupied the right lateral anterior portion of the neck, and implicated the whole right lobe, there being only a small narrow isthmus connecting it with its fellow on the opposite side. was removed on account of its size, the pain, which extended up on the face and over the right eyebrow, and the difficulty in respiration. The removal was accomplished without difficulty, the muscles were flattened and the blood vessels tortuous and large, in vein in particular which emptied into the internal jugular. Five or six ligatures were necessary, but they were probably absorbed as none came away with the pus and discharge which formed subsequently. The incision flaps united by first intention. Up to the present time there have been no symptoms of myxedema.

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Dr. Louis Hauck read a paper (See page 381) entitled

Intubation.

Dr. Nicholson could see nothing in the subject of intubation to be enthusiastic about. The objects to be accomplished are indentical with those of tracheotomy, and the statistics show the same per cent of recoveries in each. The operation is losing its popularity with the profession at large. Speaker had noticed that it is almost entirely discontinued in Europe, and learned that there is no call whatever for the tubes at the instrument makers. Dr. Treves was heard to say that he preferred tracheotomy, because i takes only few moments to perform and because it can he done by almost anybody. Intubation, on the contrary, requires more time and special skill in its performance. These points the speaker considered well taken. The operation certainly does require special skill, and he had never seen it done in from five to thirty seconds. It usually takes from three to ten minuts when done on the living subject.

There is no danger of suffocation after tracheotomy, speaker never having lost a case from this cause. He had intubated in one case, and subsequently did tracheotomy at the request of the attending physician. In another instance of intubation, the tube was found partially clogged up with membrane, which is a dangerous condition on account of the difficulty of cleaning the tube.

Dr. Fairbrother said he could hardly agree with the author of the paper in his high estimation of intubation. Some eight or ten years ago, when the tube was first introduced to the profession, it was thought it would completely supercede tracheotomy, but these expectations have not been realized. On the contrary, intubation is being abandoned by the majority of practitioners. Of late, very little is observed of this operation in the medical journals, but the daily press had occasional notices of it. Two fatal cases had been recently noticed, where death took place while the surgeon was trying to remove or introduce the tube. Some other cases had appeared in the public prints, in which this operation was lauded to the skies as something new and wonderful. But these cases were evidently the *argumentum ad captandum vulgus*, and not to be trusted from a professional standpoint. The speaker did not maintain that tracheotomy is any great boon to humanity. The per cent of recoveries from the operation, in really bad cases of membraneous croup or croupous diptheria is so small as to be altogether discouraging. But a drowning person will catch at a straw. No words can picture the terrible scenes sometimes surrounding these cases of death from diphtheria or croup, and any operation that offers even only a temporary relief is sought with eagerness. Frequent observation upon the operation of intubation had shown it to be so unsatisfactory, that if either is to be performed, tracheotomy is preferable.

Dr. Meisenbach also thought that the objects of intubation and tracheotomy are the same; namely, to bridge over the condition of the patient until the system shall have time to recuperate from the effects of the disease. Death usually occurs from stenosis of the larynx, due either to swelling, or to the presence of membrane. The making of an additional wound in the trachea does not add materially to the outcome of the case.

One point in favor of intubation is the early stage of the trouble when it can be performed. Parents will not consent to a cutting operation as readily as to that of intubation. In consequence, the system has often been surcharged with carbonic acid gas and the toxic products of the disease for hours or days before the proper relief is afforded by a tracheotomy. Speaker thought that the percentage of recoveries from tracheotomy would be greater than that from intubation if the former operation could be done as early as the latter. It is difficult, however, to compare the statistics of the two operations, because we do not operate on the same class of cases in each, nor under the same conditions and circumstances.

Speaker had performed intubation several times, and has discarded it. It is not an easy procedure at best, and is more difficult to perform on a crying and struggling child. He had done twenty-three or twenty-four tracheotomies for all conditions, nineteen of which were croupous diphtheria. The per cent of recoveries

in all cases was thirty-five, while that for croupous diphtheria was twenty-eight. Of course, these figures might be very materially changed by t'e next few cases.

Dr. H. W. Loeb considered the evidence as slightly in favor of tracheotomy, although one would expect a laryngologist to favor the other operation. The advantages of intubation were exceedingly few, even if the operation is done by a skillful person, and the statistics show that the recoveries are only one per cent greater than those from tracheotomy. This difference may be accounted for by the fact that patients are operated upon at an earlier stage of the disease, and also because the operation is a modern one, performed by pushing men who do not hesitate to publish their results, in consequence of which the records are more complete than in tracheotomy. The per cent of recoveries from either operation is about twenty-seven, and not forty, as Dr. Nicholson states.

Intubation is certainly not as generally performed at present as it was three or four years ago. It should be performed only by persons familiar with laryngeal manipulation and it will then not be so difficult. The originator's opinion in this regard was expressed in one of his letters which was read at a meeting of the Mississippi Valley Medical Society. In it he maintains that there should be only one intubator to every 5,000 people, and no one should venture to perform the operation who had not had an experience of at least fifty cases.

Intubation has slightly the advantage in cases of laryngeal stenosis in adults due to syphilis or other causes, and it is not considered the classical operation. Speaker had seen one case of paralysis of adduction of one side, and later of the other also, in which the woman had to wear the tube constantly lest she should be in danger of suffocation. Taken as a whole, the results from intubation are in very young children and in adults suffering from stenosis.

Dr. Louis Hauck had met with difficulties at first, but these are overcome as our experience increases. He now has no difficulty in introducing or removing the tube, and had done the operation in less time than it takes to describe it. Three or ten minutes required to introduce the tube would invariably result in the suffocation of the child. The absence of blood or shock, are points of decided advantage, as is also the short time required for recovery.

One surgeon had had twenty-four cases of tracheotomy, all of which resulted fatally. Later on, he employed intubation, and since that has had thirty per cent of recoveries.

Speaker had resorted to intubation in a case of diphtheritic croup in which there was involvement of the throat, tonsils, pharynx and palate. The child was relieved in twenty-four hours, and coughed up the membranes with the tube, which was not re-inserted. It was on the road to recovery, but succumbed to a diphtheritic infection of a blistered surface of the neck, a result of treatment resorted to by the physician in attendance.

St. Louis Obstetrical and Gynecological Society.

Regular meeting, Thursday evening, September 27, 1894.

Dr. Dorsett presented a specimen of tumor concerning which the following discussion took place:

Dr Dorsett.—Mr. Chairman and Gentlemen: This specimen is not of a great deal of interest, but the case was very interesting, inasmuch as it had existed for a considerable length of time and a mistake was made in the diagnosis. It occurred in the person of a young unmarried woman who witnessed an operation some time ago on a case of fibroid tumor that had had its origin in the pelvis and had never arisen out of the pelvis, and in which the uterus was prolapsed a good deal. There had also been some bladder symptoms. After this operation she spoke to a female friend much older than herself and asked her if she should not be examined, that she thought she had something of that kind. This friend spoke to me about it and I examined her and found the uterine neck sticking down between the labia minora. She had been treated for bladder trouble for seven or eight years, had received injections and taken all sorts of diuretics. On passing my finger along the posterior walls o the vagina I could feel a distinct fluctuation in the pelvis, but the abdomen was not enlarged at all, it being flat, in fact, and she had constipation and a great deal of vesical tenesmus. My diagnosis was an ovarian cyst. The most interesting thing about the operation was the inability to get this cyst out of the pelvis. It was down hugging close the anterior wall of the sacrum and under the promontory of the sacrum—which, by the way, was rather prominent—and I could not pull it out. I was obliged to tap the cyst in that position, and I had to attach quite a long rubber tube to the end of the trocar nd tap it before I could get it to move at all. Finally after tapping one side, there being two distinct walls, I evacuated the contents of one of them and the other then came out very nicely and I removed it. The side of the ovary is distinctly cystic and it was also removed and is here.

Dr. Papin.—Were there any adhesions?

Dr. Dorsett.—There were no adhesions at all. It was just jammed in the pelvis, and I could not pull it out with my hand. I will say that she suffered a little bit from the womb being low, and I put in a pessary, which she wore for five or six weeks and had no further use for it. She is now going about perfectly comfortable and is entirely we . The trouble got well inside of three weeks after the cyst had been removed.

Dr. Papin.—You removed both ovaries?

Dr. Dorsett.—Yes, they are both cystic.

Dr. Lemoine —What was the nature o the contents of the cysts?

Dr Dorsett.—It was a rather thin fluid.

Dr. Glasgow.—I run across a case every now and then of very frequent micturition, especially during the

day time, maybe not at all at night, and they have often been treated for bladder trouble. These cases you can cure very frequently by means of pessaries. The frequent micturition is due to pressure on the neck of the bladder on account of prolapsus of the uterus.

DR. LEMOINE.—You mean a supposed cystic difficulty—bladder trouble?

DR. GLASGOW.—Yes, sir, supposed bladder trouble.

DR. LEMOINE.—I suppose this case was simply due to pressure?

DR. DORSETT.—That is all.

DISCUSSION ON SPECIMEN PRESENTED BY DR. HYPES.

DR. HYPES.—This specimen presents no special points so far as the pathological condition is concerned, but the history of the case is quite interesting. It seems, as far as I could learn of the history of the case, that a week ago last Sunday a young lady just twenty years of age, of good family and accustomed to home work, was taken ill after having attended a party the previous Saturday night. She felt bad, vomited and had some abdominal pains. These symptoms continued, rather increasing in their virulence, there also being some fever, until Wednesday, when the family physician was called. That was just one week prior to her death. He treated her without making a positive diagnosis, and last Sunday I was called to see her in consultation. Then she showed the symptoms from the history of the case—a marked tenderness and some swelling in the right iliac region—of appendicitis. That was my diagnosis. She was thoroughly septic, pulse 140 to 150, and feeble, breathed very rapidly, and presented really the pinched and contracted features of a patient in the last stages of septicemia. Upon vaginal and rectal examination I also found, along with this apparent appendicitis, a pelvic peritonitis. I left her with the understanding that if she should improve any in her symptoms (as I did not think she could live more than twenty-four hours), I should be called again and we would consider an operation. She died on the following Wednesday. The post-mortem revealed this condition of affairs: When the abdomen was opened there was exhibited a perfect condition of perityphlitis and also of pelvic cellulitis or pelvic peritonitis. The intestines were agglutinated together as well as to the abdominal wall. Supposing it was a case of appendicitis, I hunted for the appendix, found it and cut it off. It was gangrenous at its extremity and showed marked symytoms of inflammation. Then I thought that as I had found considerable pelvic tenderness and swelling, I would examine the other organs, and in doing so, found that the right ovary and the tube were entirely bound down in this mass of inflammatory tissue. There was also considerable pus in the pelvic cavity on the right side. Then I examined the left side and found that the left tube was also enlarged and somewhat agglutinated in its surroundings. I lifted it up, separated it, took it out and cut it off. Then it struck me that this condition was not the result of appendicitis, but of something else. I then cut off the uterus and in it found products of inflammation and a sloughing of tissue, and I judge now, from the condition of things, that this woman had a septic condition of the uterus, and that this sepsis extended along the Fallopian tubes and involved the pelvic peritoneum and also the appendix so that, in all probability, it was not an appendicitis primarily. One thing in connection with her history, as the doctor told it to me, is that she began to menstruate about the fourth or fifth day of her illness, and that he examined her per vaginum while she was menstruating. This menstruation had ceased when I saw her on Sunday. That was a week after the attack had begun. The history is that she was perfectly regular and there was no suspicion of anything wrong about the young lady. But certainly it is a very strange condition of things to find this inflammation of the uterus and a locus which, you will notice, is gangrenous and sloughing, without any previous history of disease or injury. The principal pathological products were found in the right pelvis and about the appendix where the most tenderness existed both upon vaginal and abdominal examination.

DR. GREGORY.—And the left also?

DR. HYPES.—Not much over the left.

DR. GREGORY.—Then the pain in the stomach and the vomiting would not have warranted your assuming there was any local trouble?

DR. HYPES.—Oh, no. Not without the local tenderness.

DR. GREGORY.—It was only the tenderness you refer to that suggested it?

DR. HYPES.—Yes, sir, with the other symptoms.

DR. GREGORY.—But was there any symptomatology which warranted you to suppose that there was pain in progressive stages in that particular region from the beginning?

DR. HYPES.—No, not in the history as given me; I was not in attendance in the beginning.

DR. GREGORY.—Then there were no special symptoms that pointed at all to the right iliac region?

DR. HYPES.—No, not in the history. This vomiting and pain in the region of the stomach always sends me right to the region of the appendix.

DR. BOISLINIERE.—It is very suspicious of pregnancy.

DR. HYPES.—Well, I don't know as it is, doctor, because this part that seems to be most diseased is in the wall of the uterus.

DR. DORSETT.—The mistake which Dr. Gregory has just suggested is sometimes made—a supposed case of appendicitis turning out to be something else. About two years ago I saw a young girl about fourteen or fifteen years of age suffering with a pain over McBurney's point, right in that region, and upon making a careful palpation of the abdomen I thought I felt a lump. I wanted to make a vaginal examination at the time, but the mother would not agree to it, nor would the girl, and I then suggested an operation. She had vomited some, there was a great deal of pain and considerable

trouble and she was apparently well. About a year after that I was called to the same patient and I found the same condition present and thought it was a case of recurrent appendicitis. I was not able to get an operation that time. Last spring I was called and I was satisfied there was a lump there and that there was a distinct induration. That time she consented to an operation. When we cut down into the belly we found the appendix perfectly healthy, but just underneath and a little to the inner side I found a sac of pus. The opening was enlarged and we found the tube. The tube was patulous and it was leaking pus into the belly. We made a counter opening near Douglas' sac and put in a drainage tube leading into the vagina. We did not take out the ovary nor the tube. She got entirely well, is well today and has both of her ovaries and both tubes. That was a case in which we made a difference, that is, we wandered from the "beaten track" and did not take out the tubes and ovaries and the reason for making that difference was that the tube was simply a carrier of pus and not an abscess cavity. It carried the pus from the uterus into the general peritoneal cavity and produced the inflammatory condition.

Dr. Glasgow.—Was the uterus full of pus?

Dr. Dorsett.—The uterus was not meddled with at all.

Dr. Boislinierre.—Where did you make your incision.

Dr. Dorsett.—Just about an inch to the inner side of the appendix.

Dr. Glasgow.—You do not suppose the pus originated in the tube?

Dr. Dorsett.—I imagine it started from a case of gonorrhea in the womb.

Dr. Glasgow.—Was she married?

Dr. Dorsett.—No, she was a single girl, and I imagined she was a virgin till we had found this abscess. As to what these lumps were when I examined her on the previous occasions I do not know. I wanted to cut into them, but she would not let me.

Dr. Gregory.—I would simply state that both cases reported here to-night were primarily, perhaps, uterine, both suspected to be appendicitis, but both primarily diseases of the womb. I am looking for this class of cases, and I am told that when you are looking for them you can generally find any number. People are now looking for appendicitis, and they find it almost everywhere. Now I am looking for something that is taken for appendicitis that is not appendicitis, and I find it everywhere.

Dr. Mudd.—As a matter of fact there are a great many doctors who are not looking for appendicitis. I do not believe there are twenty days in the year, maybe I might stretch that a little, but not much more, that I am not called to see a case that is dying from diffuse peritonitis that comes from appendicitis.

tem will do it.

Dr. Gregory.—I am inclined to think, doctor, that you are looking for them.

Dr. Mudd.—I am, doctor.

Dr. Gregory.—Your observations are certainly very extraordinary.

Dr. Prewitt.—It is not very infrequent though that you find cases of appendicitis that are not recognized.

Dr. Gregory.—And how many are seen that are not appendicitis that are recognized?

Dr. Prewitt.—That may be, but every now and then you see cases that are not recognized, and sometimes recognized too late for operation.

Dr. Papin.—I should like to ask a question of the surgeons who operate. Supposing you do not operate on a patient and he gets well, is it apt to recur again?

Dr. Mudd.—I think in the majority of cases it will. I think there are a good many cases that get practically well of one attack, but the majority of cases recur.

Dr. Papin.—Supposing they have two or three attacks, are they likely to get well anyhow?

Dr. Mudd.—There is no question but what many cases have recurring attacks that finally get well permanently from an adhesion, from destruction of the mucous membrane, from perhaps atrophy or getting rid of the appendix itself by what Senn calls an obliterating appendicitis, and there are a good many cases that get well from an opening of the abscess into the bowel.

Dr. Papin.—I attended a lady about two years ago who had what appeared to be an attack of local peritonitis in the right side. I did not recognize it as appendicitis. Early in the summer months, or probably the latter part of the spring, she had another attack, and Dr. Gregory was kind enough to see her with me, also Dr. Tupper—my grandson—and Dr. Blair. It was so grave that the surgeons contemplated an operation, but it was at night and we put it off until morning. In the morning she was better and got well. By my advice she traveled during the summer up North, and she was taken suddenly with another attack, and I think Dr. Barnes was there from St. Louis, who treated her. On one or two occasions he was on the point of telegraphing me to come up, but she got well, and when I saw her a few days ago she was apparently as well as she ever was. Of course I feel a little solicitous to know something of the recurring history of these cases.

Dr. Mudd.—I think I have seen five more operative cases since I came home about four weeks ago. Three of them have recovered without operation and two of them died from diffuse peritonitis present at the time I saw them and without operation, because the operation under the circumstances would be hopeless.

Dr. Glasgow.—Those who died, were those acute cases?

Dr. Mudd.—It was difficult to tell.

DR. PAPIN.—In the cases that died did you make a post-mortem?

DR. MUDD.—No, sir.

DR. GLASGOW.—I listened for two days to the history of appendicitis at Toronto, and those men reported an enormous number of cases. One man reported ninety-eight per cent of cases that had recovered, another, and who was, I believe, an honest man, I do not think he had more than fifty per cent out of a certain class of cases. But every man seemed to have a great supply of these cases, and the consensus of opinion was you must operate on every case as soon as you get it; it don't make any difference whether it is of the fulminating type of the recurring type. Of course if you operate in the beginning you won't have many recurring cases afterward. As I recollect, almost every case of the fulminating kind died whether operated on or not

DR. DORSETT.—There was one man who reported eighty-four cases. That was the one that had the remarkable success I believe. Another man reported four cases surgically treated in thirty-seven consecutive hours.

DR. PREWITT.—Bearing upon the question that Dr. Papin asked awhile ago, I saw a very interesting case only a short while back. A young man had had three attacks of appendicitis. In one of those cases he was in bed for five weeks, in another attack he was in bed for perhaps two or three weeks. When he came under my care he was walking about. There was still a certain amount of tenderness in the region, but not a great deal, and he said it only gave him trouble when he walked a good deal, then he began to feel sore. I thonght very likely that it was a recurrent appendicitis that he had been troubled with. I operated and found no pus, but found in the appendix a concretion as big as the end of my little finger, which would almost unavoidably have resulted in trouble again.

DR. GREGORY.—What kind of a concretion was it?

DR. PREWITT.—Well, I didn't cut it open to see. I had a young boy under my care several years ago who had a large swelling in the right abdominal region, and I did not know whether it was appendicitis or peritoneal abscess. I cut into it and passed my finger well down and found it could pass down to the appendix. I washed it out and let it alone and it got well. About a year after that he was taken again and I then recognized that it was really appendicitis. I cut down and let out considerable pus and there I found a calcareous concretion that was the source of the trouble and he got well.

DR. GREGORY.—Where was this calcareous concretion?

DR PREWITT.—Right in the region of the appendix.

DR. GREGORY.—Was it loose?

DR. PREWITT.—Yes, sir.

DR. GREGORY.—You might suppose that that calcareous mass might have been associated with some pus-producing agency, but you cannot for a moment suppose that that calcareous mass could produce pus.

DR. PREWITT.—But it was a condition of the mucous membrane of the appendix which produced it.

DR. GREGORY.—The calcareous mass may have been associated with some agency, but the calcareous mass could not have produced an inflammation and of course it could not have produced pus. A calcareous mass might produce a plastic process of itself, but it certainly could not produce an inflammation.

DR. MUDD.—It might produce an ulceration.

DR. GREGORY.—It could not produce an ulceration without the inflammatory method of ulceration.

DR. PREWITT.—In connection with the tube in which it originates, with the catarrhal condition and the presence of this foreign body, it seems to me a very natural thing that it should result in ulceration and perforation of that tube.

DR. SCHWARTZ presented a specimen and said: I have a specimen here which, in contradistinction to those shown before, is connected with a case where the diagnosis was very easy. She was an unmarried woman, 33 years old, who for the last year or so noticed something growing in her abdomen. On examination I found a number of tumors, one being in the region of the sacrum. The uterus did not seem to be much enlarged, and the diagnosis of peritoneal fibroids seemed to be the only one that could be made. I removed these tumors. There were no adhesions whatever, and it struck me that it was peculiar that the uterus should be enlarged hardly at all. It struck me as peculiar that such large fibroids should grow there without changing the size of the organ itself very much. I would state that this woman was melancholic and had to be sent to an asylum, and the doctor thought perhaps that the growing tumors might have something to do with her mental disturbance.

DR. GREGORY.—Is she still melancholic?

DR. SCHWARTZ —Well, to tell the truth, I have not seen the patient since I operated, nearly three months ago.

DR. PREWITT.—What did you do with the pedicle?

DR. SCHWARTZ.—I tied it in the usual way.

DR. PREWITT.—Fasten it in the lower extremity?

DR. SCHWARTZ.—No, I did not.

DR. BOISLINIERE.—Did you remove the ovaries?

DR. SCHWARTZ.—No, I did not; it was too much work, they were too far out of the way.

DR. GLASGOW.—How old was the patient?

DR. SCHWARTZ.—Thirty-four.

DR. MUDD.—Is it a fact that they are disturbed much when you leave the ovary and take away the tube?

DR. PAPIN.—I have seen several young women without wombs, but with ovaries, and they suffered beyond all expression at the time of the menstrual period, so much so as to necessitate the removal of the ovaries in one case particularly in which Dr. Engelman operated, first on one side and afterwards on the other. Then I remember a young woman who came from Alabama, Dr. Montrose Pallen attended her. She was without a vagina. He attempted to make a vagina, and when we reached the fundus we found there a little almond-

The reading of Dr. Boisliniere's paper was deferred until the next meeting.

There being no further business, the Society adjourned.

Mississippi Valley Medical Association.

The Secretary of this Association announces the following preliminary programme for the twentieth annual meeting, in Hot Springs, Ark., November 20, 21, 22 and 23, 1894:

Ball, James M., St. Louis—Cases of Traumatic Cataract in Children Treated by Extraction.

Barclay, W. F., Pittsburg—Toxics.

Barr, A. D., Calam[illegible], Ark.—The Philosophy of Stimulants.

Beard, Chas. H., Chicago—Squint, With Special Reference to an Operation.

Bernays, A. C., St. Louis—Conservative Surgery, and What It Means at the Present Time.

Brayton, A. W., Indianapolis—The Deeper Inflammations of the Skin.

Buchman, A. P., Fort Wayne, Ind.—Intestinal Indigestion.

Campbell, Robt. M., Esq., Ashland, O.—The Medical Expert Witness.

Cline, L. C., Indianapolis.—Some Observations on "Sore Throat" Due to Concretions in the Tonsils.

Conklin, W. J., Dayton, O.—The Differential Diagnosis of Coma.

Cook, Geo. J., Indianapolis—Constipation.

Corlett, Wm. T., Cleveland—Syphilis, and Its Relation to Other Affections, Especially Those of the Skin.

Cordier, A. H., Kansas City, Mo.—Surgical Treatment of Uterine Fibroids; Disposal of the Pedicle.

Dalton, H. C., St. Louis—Stab Wound of Pericardium; Resection of Rib; Future of Pericardium; Recovery.

Dean, Davis A., Pittsburg—Surgical Treatment of Trachoma.

DeCourcy, J. O., St. Libory, Ill.—Possibilities of Medicine.

Denison, Chas. A., Denver, Colo.—Some New Instruments and Means of Physical Diagnosis.

Dixon, Arch, Henderson, Ky.—Subject unannounced.

Fry, Frank R., St. Louis—Quinine in Chorea.

Grant, S. G., Kansas City, Mo.—A Few Remarks on the Early History of Rectal Diseases.

Hamilton, John B., Chicago—Report of a Case of Trephining for Cerebral Clot; With Loss of Vision; Recovery.

Holmes, C. R, Cincinnati—Diseases of the Accessory Nasal Cavities; Their Influence Upon the Organs of Sight; Modern Surgical Treatment with Report of Cases.

Hughes, C. H., St. Louis—Spot Specialism.

Hulbert, Geo. F., St. Louis—Functional Stenosis; Its Relation to Malformations, Dislocations and Flexions; and Conditions Characterized by Amenorrhea, Dysmenorrhea and Hyperemias; With a Scientific Rationale in Therapeutics.

Kerr, W. S., Mansfield, O.—Subject unannounced.

Keily, W. E., Cincinnati—Subject unannounced.

Lewis, Bransford, St. Louis—The Neatest Method of Circumcising.

Link, J. E., Terre Haute, Ind.—Colles' Fracture.

Loeb, H. W., St. Louis—Double Nasal Atresia, Due to Small-Pox.

Love, I. N., St. Louis—Tubercular Meningitis.

Loving, Startling, Columbus, O.—Physicians' Prescriptions.

Lowe, Geo. M., Randall, Kas.—Traumatic Lesions of Cranium and Brain; Report of Clinical Cases.

Lydston, C. Frank, Chicago—Observations on Residual Urine and Remarks on Perineal Section.

Marcy, Henry O., Boston—Modern Surgical Technique.

Marks, Heine, St. Louis—Subject unannounced.

McLean, Donald, Detroit—Tumors of the Neck.

Mathews, Joseph M., Louisville—Advantages and Disadvantages of Kraske's Operation.

Meisenbach, A. H., St. Louis—Resection of the Knee for Separation of the Lower Epiphysis of the Femur; Case of Two Years Standing, in a Patient Thirteen Years of Age.

Moyer, Harold N., Chicago—Accidents and Injuries from Electric Currents of High Potential.

Morbury, Frank P., Jacksonville, Ill.—The Mental Symptoms of Cerebral Syphilis; A Clinical Study.

North, John, Toledo, O.—Enlarged Tonsils and Their Treatment.

Owen, A. M., Evansville, Ind.—My Experience With Gold as a Therapeutic.

Parker, Chas B., Cleveland—The Surgical Treatment of Injuries of the Head.

Pope, Carren, Louisville—Headache.

Ransohoff, Joseph, Cincinnati—Address on Surgery.

Ravogli, A., Cincinnati—Syphilis.

Reed, Chas. A. L., Cincinnati—Reform in the Management of the Insane and the Neurotic Viewed from a Gynecological Standpoint.

Reynolds, Dudley S., Louisville—Retinitis Syphilitica.

Ricketts, B. Merrill, Cincinnati—The Spine and the Elevator.

Ridlon, John, Chicago—Infantile Paralysis.

Scott, X. C., Cleveland—Presidents Address.

Smith, C. E., Waco, Texas—Epilepsy.

Solly, S. E., Colorado Springs, Colo.—Climate and Tuberculosis.

Sterne, Albert E., Indianapolis—Toxicity in the Production of Nervous Diseases.

Straus, Leon, St. Louis—Constipation from a Surgical Standpoint.

Sutton, R. Stansbury, Pittsburg—Laparotomy for Pelvic Diseases no Longer Necessary.

Thomas, Homer M., Chicago—Medication of the Air Passages by a New Atomizing Vaporizer; With Experiments on Animals.

Walker, A. B., Canton, O.—The Importance of Urinalysis in Diagnosis.

Walker, Edwin, Evansville—Reflex Irritation as a Cause of Nervous Diseases.

Walker, H. O., Detroit—Subject unannounced.

Weber, W. C., Cleveland—Hydrocele.

Whittaker, J. T., Cincinnati—Address on Medicine.

Wirt, Wm. E., Cleveland—Tumor Albus of the Knee-Joint.

Wishard, W. N., Indianapolis—Influence of Inflammation of the Seminal Vesicles in Maintaining Gleet.

Zinke, E. Gustave, Cincinnati—Modern Antiseptic and Aseptic Midwifery in Private Practice.

The railroad rates for this meeting will be one fare for the round trip. A special train will leave St. Louis for Hot Springs, Ark., Sunday night, November 18, via Iron Mountain Route.

A stop of several hours will be made at Little Rock, Ark., on Monday, November 19.

It is requested that all who contemplate making this trip, arrange their plans to join the official train at St. Louis Sunday night.

FREDERICK C. WOODBURN,
399 College Ave., Indianapolis. Secretary.

ABSTRACTS

MEDICINE.

Meningitis, Suppurative. Rare Cause.—Kirchner, (*Berlin Klin. Wochen.*; N. Y. *Polyclinic*) calls timely notice to a series of cases that have received but little attention. Within the past three years a number of similar cases with fatal termination have been reported, especially in our army circles. He relates this case:

A man, aged 22, complained of pain and noises in the right ear, which had been present for two days. The drum membrane looked dull, and bulged over its pos terior part. The affection, however, seemed to be slight, and the ear was syringed out. Later in the day the patient shivered and seemed ill. The evening temperature was 38 6° C. In the night he was groaning and getting out of bed. The following morning he became more or less unconscious, with restlessness, grinding of teeth, dilatation of the right pupil, and loss of the light reflex. The abdomen was indrawn, but there was no rigidity or tenderness of the neck muscles. Icebags were applied to the head, an incision made behind the ear, and calomel administered internally. In the afternoon the pulse was rapid, the breathing stertorous, and death occurred within thirty-two hours of the onset of the meningitis. At the necropsy there was a general suppurative meningitis, especially over the right temporal region. There was dulling and thickening of the dura mater over the temporal bone, but no thrombosis of sinuses. There was old pus, with cholesterin crystals, in the middle ear and in the labyrinth. The mastoid cells were intact, and there was no disease in the roof of the tympanum. The meningitis was the result not of recent, but of old ear disease. There was no exit for the pus through the drum membrane. The infection had spread through the labyrinth and not through the tympanic roof or mastoid cells. This form of meningitis, due to the staphylococcus, as was proved in this case bacteoriologically, is quite distinct from the cerebro-spinal meningitis brought about by the pneumococcus infection. Micro-organisms can gain access from the mouth to the ear through the Eustachian tube, hence the importance of the cleansing of the mouth. The author naturally lays great stress upon prophylaxis in these cases. The importance of incising the drum membrane is obvious, although it may be doubted whether it would have been of service in this case at the time when the patient was seen. The author also refers to a recently recorded case where the infection travelled through a congenital defect in the roof of the tympanum.

Diabetic Neuritis.—Davies Bryce (*Brain;* N. Y. *Polyclinic*), calls for two forms or would distinguish the two forms into:

(1) The motor or paralytic, and (2) the sensory or ataxic, the latter including Leyden's neuralgic group. He relates 3 cases of diabetic pseudo tabes. In all three cases, besides the ataxy, the knee-jerk was absent. In cases 2 and 3 the pupils reacted normally to light and accommodation, but in case 1 the reaction to light was sluggish. In cases 1 and 2 sensation was affected in the feet and lower part of the legs, but in case 3 the feet only were involved.

CASE 1.—A man, aged 56, with diabetes and perforating ulcers of the feet, died in coma. The peripheral nerves of the right leg were examined and found diseased, especially the posterior tibial nerve, the lower part of which was thickened and embedded along with the atheromatous tibial artery in a mass of inflammatory tissue. Changes were also reported in the large anterior cells in the lumbar cord.

CASE 2.—A man, aged 72, had diabetes and grangrene. He had suffered from sciatica for ten years. A peculiar erythematous edema of the feet was present at times. Changes were found in the anterior and posterior tibial as well as the sciatic nerves. Arterial disease was marked.

CASE 3.—A diabetic man, aged 62, also died of gan-

he two last cases. The chronic course, the presence of taxy, the absence of paralysis, the age (beyond middle ife), the preponderance of sensory, vasomotor and rophic symptoms, and the existence of arterial disease vere the chief points in these cases. No relationship vas apparent between the severity of the nerve symptoms and the amount of sugar present except that the erythematous edema coincided with increased sugar excretion. The author does not think diabetic neuritis olely due to a specific toxic agent, but mainly to vascular disease and malnutrition. The posterior tibial rtery is especially prone to degeneration, and the posterior tibial nerve supplied by this artery was chiefly mplicated. Morphine and antipyrin were useful in llaying the pain. Operative procedure would, in the uthor's opinion, only have accelerated death.

Diabetes Mellitus, and the Association of Diabetes with Albuminuria.—Leyden (*Deutche Medizm. Zeit;* N. Y. *Polyclinic*) summarizes his opinions as follows:

1. Renal disease with diabetes. Frerichs found in 116 cases of diabetes 16 of albuminuria, or 5 per cent. In the late stages of diabetes albumen or peptone may appear in the urine, owing, perhaps, to the incomplete decomposition of albuminous matters. The occurrence of persistent albuminuria fairly early in the disease is not so very rare, and is mostly due to renal disease. The exact relation of renal disease to diabetes is not known. Perhaps the diseased kidneys facilitate the excretion of sugar, and thus a renal form of diabetes may exist like that produced by phloridzin, but this is uncertain. With the advance of the disease this facility may again disappear. As to the form of renal disease associated with diabetes there is no sufficient information. In 3 of the author's cases the arterio-sclerotic kidney was found after death. Diabetes with albuminuria, like arterio-sclerosis, occurs in advanced life.

2. Diseases of the nervous system in diabetes. Apart from the nervous lesions possibly causing diabetes, they may consist of painful paresis in the lower extremities due to peripheral neuritis. The author refers to a case of diabetes with renal disease in which not only lesions in the peripheral nerves, but also in the spinal cord, were present. The disease in the cord was not limited to any system. It may belong to the group which have been described in connection with cachectic conditions such as pernicious anemia.

3. Therapeutic considerations: The author has found no good effect from the pil. myrtilli recently much extolled. Levulose has been given to supply the place of ordinary sugar, which is excreted almost unused by the diabetic. A series of investigations are then recorded showing that a part of the levulose is excreted as a dextrorotatory fruit sugar, and a part is used up in the body. The latter becomes larger the longer the thing, however, must depend on the character of the individual case.

The Digestive Properties of Pine-Apple. From an exchange we cull the following: The knowledge of the fact that Pine Apple (Ananassa Sativa) contains an active digestive ferment, is of comparatively recent date, although the natives of those districts where the Pine-Apple grows in its greatest profusion have long been familiar with the wonderful digestive properties of the fresh juice of this magnificent fruit. To that eminent chemist and scientist, Senor V. Marcano, is due the credit of the discovery of Bromelin, who first isolated the digestive principle and brought it to the notice of the medical profession. He found that the fresh juice of the Pine Apple had the power of digesting proteid vegetable and animal substances; that the ferment is decidedly active in the presence of either acids or alkaline carbonates, but is most energetic in neutral solution, and unlike pepsin, is singularly active in an alcoholic medium; that the digestion takes place with rapidity; that the ferment, to which the name "Bromelin" has been given, is more nearly related to trypsin than to pepsin, forming, during its action, not only proteoses and peptones, but also leucin and tryrosin.

For the juice to be most energetic, great care should be exercised in collecting the fruit at a particular season of the year and at a certain stage of ripeness. These conditions have been most carefully and zealously guarded in the preparation of Zumo-Anana (Pine-Apple Peptic Wine), which is now offered to the Medical Profession as a vinous solution of Bromelin in its most active form. The success of Zuma-Anana has been most phenomenal in obstinate cases of indigestion, for atonicity of the digestive organs and for vomiting in pregnancy, acute alcoholism and gastritis, and for gastric disturbances and intestinal pain.

The elegance of the preparation will at once recommend it to physicians and to their most fastidious patients.

SURGERY.

A New Bloodless Operation for the Excision of Hemorrhoids, With Healing by First Intention.—In the domain of surgery no field has been fought over more energetically in modern times than that which pertains to operations on the rectum, and particularly to the removal of that most important, because so common and distressing, ailment, hemorrhoids. The most valorous determination to rescue its treatment from the uncertainties and vagaries of empiricism and to establish it on sound surgical princi-

ples has actuated the advocates of the various methods now in vogue.

Believing that a process of dealing with hemorrhoids evolved from my own conceptions after many years of contemplation and trial in devising means to harmlessly control hemorrhage while excising the tumors and redundant folds of the rectum, and likewise to hold in perfect and undisturbed coaptation the edges of the incision, will receive favorable consideration from intelligent and unbiased promoters of advanced surgery, I will, without further consumption of valuable time, enter *in medias res* with as little vexing of the polemics of the subject as possible.

The following is the *modus operandi:* With a lateral or dorsal decubitus, as convenience or expediency may decide, and with an aseptic perineum and dilated sphincter, gently and smoothly clamp the base of the hemorrhoids with suitable forceps, so as to parallel the approximated surfaces and free them from folds and other inequalities; then, having left room between the clamp and adjacent healthy tissues, apply on either side a sufficient length of rubber tubing five or six millimeters in diameter, with a lumen of onemillimeter, and secure with aseptic catgut after the general manner of the quilled suture. To assure accuracy o adjuttment, the pieces of tubing should be of the same length, and have corresponding marks six or eight millimeters apart, indicating the locations for the sutures. Each tube should have its extremities hermetically sealed by the suture there tied, thus adding a degree of pneumatic elasticity to that possessed by the rubber. All the sutures should be pre-applied or tied beforehand to one of the pieces of tubing, with threaded needles in each of the opposite loops, ready for transfixing the tissues and tying over the other piece of tubing. Remove the forceps and excise the tumor close to the rubber tubing with flat scissors. I have sometimes varied the fixation of the tubing by using one piece doubled upon itself and drawn together with a continuous suture, made to assume an advancing figure of eight, or double spiral, by passing the needle always close to the forceps and the thread always encircling the tube from below upward; the perforations then are in one line and the tension evenly distributed. Where many stitches are to be taken, it saves the time consumed in tying. This completes a bloodless operation, for the elasticity of this welted suture supplies sufficient pressure to prevent all hemorrhage, and maintains in perfect and uniform contact the margins of the wound without endangering from local asphyxic and necrotic conditions consequent to rigid clamping, and without interfering with the plastic exudation of repair by first intention.

The further dressing of the wound consists simply in passing a strip of moist borated gauze into the rectum, leaving an end protruding from the anus. The catgut sutures soften in due time and permit the tubing to pass away, while the flexibility of the latter has adapted itself to the environments, with the minimum of annoyance to the patient.

What the Esmarch bandage is to amputations, the same is this elastic quilled suture to the removal of hemorrhoids or other angiomas from surfaces sufficiently lax to allow of approximating folds of sound tissue at their base. Compared with the ligature, it possesses all its advantages with none of the disadvantages attendant upon the distorted, puckered strangulation of the parts, followed by sloughing and ulcerative healing. The clamp and cautery also leave surfaces of crushed and lacerated tissue which the hot iron at best must transform into a burn of the second grade, with inevitable cicatricial contraction. Whitehead's operation is prolix, tedious and wasteful of the vital fluid. The injection of carbolic acid is unreliable and precarious, save in expert hands, and even then we must wait for Nature to expel the mummified mass and fill it with granulation before the cure is perfect. The accidents and lack of success that have been known to attend these various methods are apologetically attributed by their champions to unskillful hands. I feel confident that this new method will succeed with those who make no claim to extraordinary cleverness. It approaches the ideal of operative procedures, and attains the desiderata of all surgery, speedy and clean removal of the condemned part, economy of blood and primary union.—H. M Bishop, M.D., in *Therapeutic Gazette.*

The Operative Treatment of Ruptured Urethra.—Deanesly (*The Practitioner*) points out the fact that rupture of the urethra occurs almost always in one of two situations: either in the immediate neighborhood of the bulb or in the membranous portion. If divided in front of the triangular ligament the classical symptoms follow. "When, however, the urethra is ruptured behind the triangular ligament in cases of fractured pelvis, extravasation occurs in the prevesical space between the bladder and the pubis, where a considerable quantity of urine may collect. This fact sometimes leads to a fallacy. A catheter is passed, following the roof of the urethra, and keeping the point strictly in the middle line. On depressing the handle between the legs the catheter enters a space in which it is freely movable from side to side, and from which five or six ounces of clear urine may be withdrawn. By the rectum the catheter feels exactly as if in the bladder, although it is in reality in the prevesical space." In regard to treatment the author believes that in all cases of rupture of the bulbous portion of the urethra, and also where a blow upon the perineum has produced free bleeding from the urethra, the latter should be exposed and examined, whether a catheter can be introduced or not. The catheter may prevent extravasation, but in no way prevents the formation of a most intractable stricture. If the urethra has been completely divided, the ends should be carefully and accurately sutured. The bruised or lacerated portion should be resected. The author advises the use of a non-absorbable suture—silkworm gut, horse-hair or fine silver wire, the sutures to be removed later, the ends

se absorbable sutures on account of the liability to ontamination of the wound by urine, which prevents eir enclosure or absorption. The sutures should in-lude the whole thickness of the urethra except the ucous membrane, and care should be taken not to fold e edges of this into the wound. Four sutures are sually enough. The perineal wound may be accu-ately sutured, the stitches including the bulbo-caver-osus muscle, or it may be left open. In cases where e rupture is only partial, the fibrous sheath remaining ntact, the author would advise a longitudinal incision, xploration and a resection if much tissue is destroyed. 'ortions not exceeding one half to three quarters of an ch in length may be resected, the urethra being dis-ected sufficiently free from the corpora cavernosa to dmit of approximation. In all cases a catheter should e passed into the bladder and tied in. He advises a oft India-rubber catheter, size No. 8 or 9 English.

Two Cases of Cerebral Injury.—Herehold *Deutsche Med. Wochenschr.; Am. Jour. Med. Sciences*) eports two interesting cases of cerebral injury. In the rst case the patient, who was twenty-four years old, eceived a blow upon the head, causing a compound acture; no fragments were felt. Weakness of the ft leg and arm came on thirty-six hours after the acci-ent, thus precluding an immediate trephining. The aralysis, however, did not disappear, and recurring pasms indicated a further involvement, and operation as determined upon. Instead of coagula, four splin-ers of bone were found with suppuration of the under-ying portion of the brain, which was the superior rontal convolution at a considerable distance from the ssure of Rolando. The author explains the causation f the clinical symptoms by an infected meningo ence-halitis of the superior frontal convolution, caused by e bone fragments and producing an inflammatory dema of the anterior central convolution. This he stifies by the fact that after the removal of the bone agments and the relief of the intra cranial pressure, e cramp and spasms were lessened in intensity. The aralysis in the leg lasted longer, showing that there as probably a circumscribed local area of meningo-ncephalitis in that region. The presence of symptoms howing involvement of the sensory system emphasizes e presence of a center of muscular sense in conjunc-on with the motor sense in the motor area.

The second case was a compound comminuted frac-ure with marked depression of the fragments. The acture extended to the fissure of Roland and the mo-or area in the region of the arm and leg centers. The g recovered rapidly after operation, but the arm re-overed more slowly, showing that there had been not nly a compression, but a contusion of the brain. Tre-hining was immediately resorted to, and the patient ecovered. The symptoms connected with the sensa-ons of temperature and muscular sense show that, as

Contribution to Surgery for the Relief of Gall-stones.—Kehr, writing on the treatment of gall-stones (*Deutsche Zeitschrift f. Chirurgie; Amer. Jour. of the Med. Sciences*), refers to fifty-three cases, upon whom he has performed eighty one operations in the last three and one half years. Of thirty-six patients upon whom he performed cholecystotomy for stone in one or two stages, there were no deaths. The production of a gall-bladder fistula is not a dangerous operation. In all of the cases a cure has resulted. In a single instance only a fistula remained, but this caused so little inconvenience that the patient did not care to have it closed.

As a result of his observations and experience the author has arrived at the following conclusions:

1. There are entirely too few operations for gall-stones; it is of the greatest importance that these operations should be done early.

2. Many patients with gall-stones do not belong at Carlsbad, but at a surgical clinic.

3. The public must be informed of the dangers attending the presence of gall-stones; the physician must not delay too long the necessary operation.

4. The course of the disease and the intensity of the pain often make operation imperative.

5. Operation may be very necessary, although there be no icterus, swelling of the liver, or tumor of the gall-bladder; also, the pains need not necessarily be typical gall-stone colic.

6. In long standing stomach troubles, such as dilatation, and especially in so called stomach cramps, one must not lose sight of the possibility of gall-stones and of the existence of hernia in the linea alba. Many patients are treated for stomach tumors who have gall-stones.

7. Riedel's tongue shaped appendix is present in many cases of hydrops of the gall-bladder; it is not seldom mistaken for wandering kidney on the right side.

8. Gall stone colic is frequently due to inflammation of the gall-bladder; the icterus that is combined with it is due to the swelling of the mucous membrane of the bile ducts.

9. Adhesions, especially between the gall-bladder and the pyloric end of the stomach, cause colic like pains, although the stones originally causing the trouble had passed a long time before.

10. For removing stones from the gall-bladder cholecystotomy is sufficient; if the proper technique is employed, fistulæ will not remain.

11. Adhesions must be freed as far as possible.

12. The ideal method with its modifications is to be discarded.

13. The total extirpation of the gall-bladder is to be considered only on account of disease of its walls (carcinoma, ulcerations, etc.), and not on account of the

stones that may be contained in it; in some instances in which the organ is small and shrunken, Riedel's or Lauenstein's method may be employed, and then cystectomy is indicated.

14. Stones in the common duct are to be removed by incision of the duct.

15. Cystic stones must, under certain conditions, be removed by incision of the gall-bladder.

16. The surgical attack is often less dangerous than the treatment by medicine—that is, the waiting and delay of operation.

17. I have not yet observed a recurrence.

18. Gall-stone operations must be executed in clinical institutions only.

19. Only those who are experienced in abdominal surgery should undertake gall-stone operations.

Double Femoral Herniotomy.—Primary Union of Both Wounds.—Dr. S. E. Milliken, of New York (*La Revista Med. Chirurg.*), reports a case of double femoral herniotomy in a woman at the advanced age of 64 years. Deep sutures of kangaroo tendon were used to close the crural canal, while catgut was employed for bringing together the skin wounds. The dressings were changed for the first time on the tenth day, when union was found complete, and the superficial sutures had been absorbed. The highest elevation of temperature was 101° F., which occurred within forty-eight hours, and was attributed to the shock of the operation.

The author concludes as follows:

1. Age is no contra-indication to the employment of the radical cure of hernia.

2. Asepsis and antisepsis should be carefully observed.

3. Even in cases of strangulation the radical cure should be attempted, if the condition of the patient warrants the delay.

4. When the truss becomes a source of annoyance, or if the hernia is difficult to retain, the operation should be performed without delay, and before strangulation occurs.

OBSTETRICS AND GYNECOLOGY.

Treatment of Distention of the Fallopian Tubes Without Laparotomy and Removal.—Dr. F. A. Glasgow (*Med. Rec.; Amer. Lancet*) brings before the profession a method of curing tubal distention by means of intra-uterine treatment, in contradistinction to laparotomy and removal. By this means the uterine ends of the tubes are made more patulous and a discharge takes place from the tube through the uterus. He calls attention to the fact that the tubes, as far as his observation goes, are always pervious at the outer extremity of the cornu, hence when removing them we must always clamp them before cutting—the obstruction must be within the uterine wall, probably in the endometrium; and also to the fact that gonorrheal inflammation is not an adhesive inflammation, and hence it does not follow that the tubes have a true atresia following this inflammation. His opinion is that the closure is due to a swelling of the endometrium, and hence a closure at the uterine end takes place. When this inflammation and swelling are overcome by pressure and antisepsis, the tubes become patulous again. The intra-abdominal pressure will cause fluid in any pendant portion of the tube to ascend into the uterus. The above procedure can be carried out in three different ways:

1. By gradually packing with gauze without anesthesia.

2. By rapid dilatation of the cervix and packing with gauze after curetting—this is done under anesthesia.

3. His own method of dilating by means of antiseptic or sterilized elm bark tents.

These tents are small strips of elm bark made just long enough to enter the cervix completely and not press on the fundus. They should be kept in an alcoholic solution of bichloride of mercury, 1 to 4000, and have a short string attached, by means of which they may be withdrawn. They are partially broken in a number of places for the purpose of making them more pliable. They may be dipped into glycerin or water just before introduction. These tents may be used when it would be impossible to pack with gauze. He has treated twenty or more cases during the past year, and does not recall one in which he did not get some discharge from the tent. All of the cases were either cured or very much benefited.

The Conservative Treatment of Disease of the Uterine Appendages.—Dr. C. H. F. Routh (*Brit. Gynec. Jour.; Amer. Lancet*) says:

1. The ovary, besides being concerned in ovulation secretes especially, but in conjunction with other glands, a peculiar principle, spermin, which being reabsorbed into the blood is most useful in its nutritive, oxygenating and recuperative power in maintaining the well-being of the female, and the want of which leads to bodily and mental debility.

2. Complete castration of females leads to forced sterility and in many cases to the induction of an earlier menopause and premature old age, and frequently to decay and perversion of mind. Partial castration produces the same effects in a minor degree.

3. The mortality of cases of diseased adnexa left to themselves varies from *nil* to 4 per cent.

4. But the mortality of cases operated on by abdominal section varies from 2.5 per cent to 12 1 per cent.

5. Complete castration has been practiced too frequently and often unnecessarily.

6. Preceded by abdominal section, the modes of operating more conservatively by *partial* castration and resection of tubes, or tubes and ovaries combined, and by ignipuncture of cysts in the latter, give much more

bearing.

7. The mode of treating the diseased appendages per vaginam and rectum, without abdominal section, by acting on the uterus itself, by electricity even in cases of gonorrheal pyosalpinx, and puncture by aspirator, offers the greatest advantages, the mortality being almost *nil*, the recoveries durable, and the motherhood left intact.

Treatment of Salpingitis.—Dr. C. H. F. Routh (*Brit. Gyn. Journ.; Amer. Lancet*) says: I may say that, starting with the certainty that in nearly all cases of salpingitis the disease originates within the uterus, if we attack that organ as we should any inflamed organ elsewhere we can arrest the progress of the disease; and this is the plan that I advocate, perfect rest being insisted on:

1. Local blood letting, either by scarifying the cervix or cutting the os on both sides to promote some escape of blood, or in other cases five or six leeches applied to the cervix. In the case of virgins, if the hymen be very small and not easily dilated, I apply leeches around the anus after the French mode, occasionally over the region of the adnexa.

2. But I prefer, instead of applying leeches over the locality of the adnexa, to apply a blister there, or I use the liquid blister two coatings, and then cover it over with medicated cotton. The blister will rise in about eight hours fully; and as soon as I have cut open the bullæ, the cotton is applied again, and in about three hours more bullæ have risen, which are again cut and the cotton applied a third time. Some bullæ will probably rise again when cut a third time; the blistered portion may then be dressed in the usual manner. One blister has thus done the work of three.

3. Using antiseptic measures freely, if I find that the tubes are relieved, the application of strong iodine or carbolic acid to the uterine cavity will often determine a cure.

4. If not, dilatation by sea tangles carefully asepticized is effected, and then strong iodine applied. I do not usually find it necessary to use the iodoform gauze, but have repeated the sea-tangle tent covered with cotton dipped in carbolic acid.

5. Supposing, however, that the ovary or tube continues to enlarge, I should use hot douches in the vagina, hot poultices on the abdomen, keep the bowels well open by gentle purgatives and enemata, and treat any feverish symptoms as in ordinary cases of inflam mation.

6. When I can detect fluctuation, I linger no longer, but aspirate. If the matter is not offensive, I inject the cavity with a solution containing iodine, and put no drainage tube in. If it is offensive, then I leave a drainage tube in, and wash out the cavity daily with iodine, until the discharge is very inconsiderable in quantity, when, left to itself, it generally heals.

Removal.—Dr. William Porter has removed his down-town office to the Union Trust Building, room 301.

Dr. W. B. Dorsett, of St. Louis, read a paper at the recent meeting of the American Association of Obstetricians and Gynecologists entitled "Ligation of the Uterine Arteries for the Cure of Fibroid Tumors and Checking Hemorrhage." The object of this paper was to establish the author's priority as well as originality in ligation of the uterine arteries for the cure of fibroids. He had made observations during December, 1880, and January and February, 1890, and had reported a case of atrophy of the genitalia and described the technique of the operation of ligation of the uterine arteries for the cure of fibromatous growths in a paper read before the St. Louis Medical Society on May 17, 1890, which had been published in the St. Louis *Courier of Medicine.*—New York *Medical Journal.*

Chicago Gynecological Society.—At the sixteenth annual meeting of the Chicago Gynecological Society, held October 19, 1894, the following officers were elected to serve the ensuing year.

President—Dr. Franklin H. Martin.
First Vice President—Dr. A. J. Foster.
Second Vice President—Dr. J. C. Hoag.
Secretary—Dr. H. P. Newman.
Editor—Dr. T. J. Watkins.

The retiring President, Dr. Fernand Henrotin, delivered an interesting annual address after which the Society adjourned to the annual banquet.

Drs. John B. Hamilton, J. B. Murphy, Health Commissioner Arthur Reynolds, Alex. H. Ferguson and others were guests of the Society.

The Physiological Effects of Cycling.—The physiological effects of cycling have recently been studied by Dr. Blazhevitch, of St. Petersburg, who publishes his results in his "Graduation Dissertation" (*Med. Rec.*). He tabulates 270 observations on 104 individuals of both sexes and various ages, distinguishing between ordinary riders and those who train themselves for, and ride in, races or attempt to cover long distances. He finds that the play of the chest is diminished immediately after riding, especially in the cases of women and children, and of men racing or commencing cycling, the diminution amounting in these cases to from 1 to 1.5 centimeters. In men accustomed to the exercise the effect was scarcely perceptible. The general effect of the summer's riding upon the male votaries of the sport was, according to Dr. Blazhevitch, practically *nil.* In women and children the effect was slightly to increase the vital capacity. The arm power was found to have increased more than the leg power in young persons and

in beginners, but in the case of men of mature age who had previously been accustomed to cycling this was not so evident. Speaking generally, the effects of cycling on the system were found to be very similar to the phenomena noticed by Tsymkovski in soldiers who had been running, and by Gruzdeff and Passover as result ing from rowing.

Fin de Siecle Treatment of Gonorrhea.—Among the numerous suggestions on the treatment of gonorrhea with which the medical press abounds, none has appeared which is so entirely unique as that presented by Dr. Burnside Foster in a recent issue of the *Journal of Cutaneous and Genito Urinary Diseases.* The method proposed is described as follows by the author: "As soon as may be after we have established the diagnosis of a first gonorrhea, the patient should be etherized and properly prepared; a buttonhole opening made in the perineum and drainage of the bladder established. Through a properly contrived apparatus the anterior urethra could then be thoroughly flushed with any antiseptic or cleansing fluid and treated on surgical principles. The details of the local treatment would vary with the fancy of the operator. The feasi bility of packing and distending the anterior urethra with iodoform gauze suggests itself to me; but any one of a great number of methods would doubtless be efficacious."—*Medical Record.*

New Ruling by the Illinois State Board of Health.—From the following communication in which names are omitted from the original, it will be seen that the Illinois State Board of Health will not recognize Dental, Pharmacy or Veterinary Colleges as entitled to recognition for any part of a medical college course (*Jour. Am. Med. Ass'n.*):

CHICAGO, October 7, 1894.

Last Saturday a graduate in Veterinary science who has never attended a medical college hitherto, called on me, professedly on your suggestion, to inquire whether he could legally graduate from your College at the end of one course of lectures. I turned to page 21 of the Fifteenth Annual Report of the State Board of Health and read to him from the minutes of the January meeting, 1892, as follows:

"VETERINARY COLLEGES NOT RECOGNIZED.—The Secretary presented a communication from the clerk of the —— Medical College, with an inclosure indorsed by ——, asking for a ruling," etc., etc., and in answer to this communication, it was

Resolved, That * * * the Illinois State Board of Health declines to recognize the degree of Doctor in Veterinary Science as the equivalent of any part of the minimum requirements fixed by the Board as characterizing a medical college in good standing, etc.

I infer that you had overlooked or forgotten this ruling and, as I have some reason to think you are not familiar with a more recent ruling of similar import and wider application, I make free to quote from page 19 of the Sixteenth Annual Report:

"*Resolved*, That * * * the Illinois State Board of Health declines to recognize the degree of Ph G., D.D.S., or V.S., as the equivalent of any part of the minimum requirements fixed by the Board as characterizing a medical college in good standing within the meaning and intent of the Illinois Medical Practice Act." * * *

"This Board does not recognize a licensed pharmacist as on a different plane from any other non-graduate in medicine."

"That as to 'persons holding certificates of examination,' the Board holds that they should establish the fact of four years of study and three full courses of lectures before being granted the degree of M.D."

I have the records and addresses of a number of students belonging to the categories referred to, whose applications for advanced standing in the —— College were rejected—in some instances, regretfully—on account of the foregoing rulings.

WM. E. QUINE, M.D.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Cannabis Indicæ.—A Non-Opiate Anodyne and Its Use in Colic.

BY J. H. GARDNER, VETERINARIAN.

The importance of this valuable remedy is well known to certain members of the profession. The most active one of the group of the non opiate anodynes or soporifics is Cannabis Indicæ, or Indian hemp. This grand drug, which was very popular years ago, although little the fashion at present, is deserving of a large share of professional favor. There were various causes which led to its disuse, all unfounded, without a doubt. One was a fear of its toxic (?) power. A misconceived thought, as Cannabis Indicæ is not a poisonous substance. There has never been a case of death recorded from the use of this drug. Its effect on the system is most marvelous in the morbid condition of the economy in colic. I have seen it cause sleep, overcome spasm, relieve pain and all nervous irritability. The placidity of repose that is produced by the use of this narcotic is rapid and to the point. The desired effect is manifest generally in a few minutes after ad-

ministration. Its soothing and curative effects over the sympathetic system are marked (and I doubt if there is a particular agent that will restore the equilibrium of nerve motion quicker than Cannabis Indicæ).

It resembles the opiate proper very much in this respect. But it does not check the secretion or constipate the bowels. Owing to its non-astringency it is destitute of constipating properties. The stomach is not deranged or its secretions checked, even with a free use of it, and what more can be asked of a curative remedy in that oft fatal disease than a sedative that will produce such an effect. I have never found a single drug to act so well. An adjuvant, corrective and vehicle can be dispensed with if this single substance is resorted to. (Stille says its curative powers are unquestionable in spasmodic and painful affections.) I have found it to relieve fatigue and arouse vital functions, an after effect of colic. It acts quickly, and is not characteristic to those common anesthetics of every-day use. Cannabis can and should be given freely until the desired effect is visible. It can be administered in the following manner:

℞ Ext. Cannabis Indicæ, - - ℥ii.
Fiat bolus No. 1.
Sig. Give at one dose.

Or, if desirable, the following can be used:

℞ Ext. Cannabis Indicæ, - - - ℥i.
Chloral hydrate, - - - - ℥i.
M. Et fiat bolus No. 1.
Sig. Give at one dose.

A renewal of this drug by the profession, I am sure, will be heartily received after but one trial. I commend it to one and all as an anodyne and true nerve stimulant.—*New York Vet. Journal.*

Lameness Simulating Iliac Embolism Ending in Perfect Recovery.

BY F. T HARVEY, F.R.C.V.S, ST. COLUMB.

The following case is interesting as showing that one may have all the classical symptoms of iliac obstruction and yet recovery take place:

HISTORY.—A bay well-bred harness mare, twelve years old, accustomed to do very little work. On starting from a hotel yard she slipped up and came on her haunches. She returned home apparently none the worse and remained so for about three weeks. She then went lame on off hind leg whenever she was taken out, after going sound for a few minutes. The lameness became extreme, but always disappeared at rest. A professional opinion given at this time favored the view of plugging of an artery as the cause of the trouble.

I saw her on May 28th for the first time. She was then looking haggard and depressed, owing probably to the fact that she had traveled several miles the previous day, and that in great pain. All the legs were very cold. There was no systemic disturbance. Led in hand, she went slightly lame on off hind. She was then harnessed and driven out; after going a quarter of a mile she went very lame and continued to get worse. She was stopped at half a mile. The off hind leg was then very cold, the other warm. Pulsation was plainly to be felt at left hock, but none on right. She was walked back to stable and perspired freely, being in pain. On rectal examination the right iliac could not be made out distinctly, the left was pulsating vigorously. The leg was still cold. She was led in hand again later in the day and went well. It was thought her previous fall might in some way have damaged the blood supply of the limb, and that treatment would be useless. She was turned out for a run at grass. A month after she walked easily some miles to a stallion, and shortly after she was again tried in harness and went as if nothing had ever been amiss.

At this date, September 5th, she is working regularly doing posting jobs.

NOTE.—The mare was never completely disabled with her lameness as some cases of iliac embolism are reported to have been, but it was evidently with great pain that she moved. I have headed the case "Simulating Iliac Embolism" for obvious reasons. The prognosis is usually bad with the above symptoms.—*The Veterinary Record.*

Lympho-Sarcoma.

BY S. D. BRIMHALL, V.M.D., MINNEAPOLIS, MINN.

SUBJECT.—A bay mare, nine years old, weighing about 900 pounds.

HISTORY.—Had not been driving as free as usual for a month or more, then began having a diarrhea which did not improve, although given change of food and rest for three weeks or more. At this time I found her in fair flesh; membranes healthy; pulse, respiration and temperature normal; appetite capricious and great thirst; fluid feces without bad odor were frequently passed. Her teeth being irregular were floated, and gave astringents in full doses.

In about a week I saw her again, but found no improvement. I learned that after drinking a half pail of water (that being all she was allowed at a time), her bowels would become very active in their movements, and in half an hour there would be a free discharge of liquid feces. By decreasing the allowance of water and giving very powerful astringents for twenty-four hours, the feces became normal in form, *i. e.*, in balls, but their smell was very offensive. There was also a rise of temperature to 104.5°, pulse 70, weak and small; respiration a little increased. I continued the medicine twenty-four hours more, and increased the allowance of water, which was very soon followed by liquid feces; and temperature, etc., gradually dropped to normal. I was now quite sure the diarrhea was due to some irritating body in the intestines, and by a rectal examination could just reach a large irregular mass (which

could not be broken with the fingers) situated in the right hypochondriac region, located, I thought, in the cecum.

The owner, not wishing to kill her, sent her to the country, although she was getting weak and failing in flesh fast, as her appetite was very poor, and what she did eat did her little good. In a few days the owner asked me to go out and kill the mare, which I did, and on examination found a large tumor on the inside of cecum opposite the ilio cecal valve, and filling this part of the cecum, except a small space for passage of food from small intestine past the tumor into large colon. The lower part of cecum contained a little fluid and the point had become gangrenous, with peritonitis of abdominal wall and diaphragm in contact with it. Along the course of the blood-vessels and lymphatics of cecum and large colon there was a ridge as thick as a man's wrist, and at one point on the colon it had increased to the size of two fists. The liver also contained two small tumors.

Dr. J. C. Stewart, Professor of Histology at University of Minnesota, examined these tumors for me and found them to be lympho-sarcomas.—*The Journal of Comp. Med. & Vet. Archives.*

FORMULÆ

Fissure of Anus and Nipple.

℞ Sennine, - - - - - - - - - - ℥ij.
Cocain. muriat., - - - - - - grs.xv.
Lanoline,
Vaseline, - - - - - - - - aa ℥ss.
M. f. ungt.
Sig. Apply to affected parts.

Dysmenorrhea.

℞ Dioviburnia, - - - - - - - - - ℥iv.
Antikamnia, - - - - - - - - - ℥j.
Codein. sulfuric., - - - - - - - gr.v.
M.
Sig. Teaspoonful every four hours.

Bronchorrhea.

℞ Eucalyptol (Sander & Son's), - - - - gtt.j.
Syrup. Hypophos. Comp. (McArthur), - - fl℥j.
M.
Sig. Take at one dose. Repeat every two hours. Mix only at time of taking.

Leg Ulcers.—Varicose Ulcers.

℞ Sennine, - - - - - - - - - - ℥j.
Zinc. oxyd. pulv.. - - - - - - - - ℥ss.
Adipsis, - - - - - - - - - - ℥jss.
M. f. ungt.
Sig. Spread on lint and apply twice daily.

Hysteria.

℞ Dioviburnia, - - - - - - - - fl℥vj.
Tinct. castori, - - - - - - - - - fl℥ij.
M.
Sig. Teaspoonful three times a day.

Seminal Emissions.

℞ Neurosine, - - - - - - - - one bottle.
Sig. Tablespoonful at bed time.

"THERE'S a Tide in the Affairs of Men, which, if taken at the flood leads on to Fortune." Could anything more fitly apply to the use of alkaloidal granules? The current runs swifter with each succeeding day carrying on its top waves, those far sighted physicians who ride with the stream at every opportunity. There is still a chance of your joining the "knowing ones," instead of being left behind if you will but grasp the line and swing out. Are you ready? If so, see the advertisement of the Detroit Metric Granule Co., on another page of this issue.

C. B. LYMAN, M.D., Assistant Surgeon U. P. System, under date of April 11, 1894, writes as follows to the Dios Chemical Company, St. Louis, Mo.: "I have been using Sennine for the last month in all my surgical cases and have had such excellent results with it that I feel like adding my word of approval to those which you have already received. I have used it in a large variety of cases, some of them have been of such a nature as to have put it to a very severe test, and in all of them it has given the very best of results. I have given almost all of the new antiseptics a trial, but have never found any of them to be as serviceable as Sennine. I have also found it a very valuable remedy in gonorrhea."

DR. L. D. KASTENBINE, Professor of Chemistry, Louisville Medical College, in his paper headed Hydrogen Dioxide H_2O_2 (Louisville *Medical Monthly*) in speaking of the different solutions and of the various brands we quote the following: These solutions, although more stable than mere concentrated preparations, nevertheless decompose and lose their nascent oxygen on which its powerful antiseptic powers depend, and consequently we find the commercial brands varying considerably from their ruptured strengths. The solution I find containing the greatest percentage of available oxygen, is the preparation known as Marchand's, which, when perfectly fresh, is about a fifteen volume solution.

Of the various brands of commercial dioxides I have examined, I find Marchand's to be the one which yields the largest amount of available oxygen under all conditions of exposure, and the one which contains the minimum percentage of free acid. All the marketable articles I have seen are free from barium compounds, but the majority do not come up to the 15 volume standard, but are 6, 8, 10 and 12 volume solutions.

AS AN Antiseptic and Deodorizer Sennine is very valuable to the Obstetrician and Gynecologist. One ounce of Sennine in a quart of warm water should be applied as a prophylactic douche before and after delivery. In Leucorrhea a solution of half an ounce of Sennine, one ounce of alum in one pint warm water applied by continued irrigation in the morning and evening, in severe cases once during the day, will effect a cure in very many cases. After the injection a tampon of absorbent cotton sprinkled over with Sennine should be placed into the vagina. It will check the secretions and destroy their offensive odor. Especially in cancer of the womb this will prove a great relief to the patient. In the treatment of cervicitis, abrasions, fissures and ulcerations of the os uteri Sennine should be applied freely in powder form and a tampon of absorbent cotton inserted. If this is preceded by a thorough syringing with one part of Sennine to fifty of warm water the cure will be rapid and permanent. In sore nipples of nursing mothers Sennine applied dry or mixed with vaseline (1 to 10) will prove a very useful application.

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ORIGINAL ARTICLES

Quinine in the Treatment of Chorea.

BY FRANK E. FRY, M D. AND M. A. BLISS, M D., ST. LOUIS.

Read before the Twentieth Annual Meeting of the Mississippi Valley Medical Association, held at Hot Springs, Ark., November 20, 21, 22 and 23, 1894.

Professor H. C. Wood contributed to the *Journal of Mental and Nervous Diseases*, April, 1893, a paper on "The Choreic Movement," wherein he advanced and supported by an ingenious and scientific argument the theory that the choreic movement is due to disturbances in the inhibitory apparatus of the spinal cord. We will not attempt to review the whole argument in this connection. A sufficient clew to it will perhaps be furnished by the following quotation from the paper.

"The problem which is presented to us for study is the examination of the conjoint excesses of motion and loss of motor power. In thinking over this problem, it occurred to me that probably in chorea there is a condition of depression or exhaustion involving the two motor functions of the spinal cord, which I believe have been proven by the modern physiologist to exist, namely, the function of inhibition of motor discharge and the function of motor discharge. In other words, that the motor power of the spinal cells is weakened, but that the power of the inhibition apparatus, which controls motor discharge from these cells, is weakened to a greater extent than is the discharge power."

It will be observed that the remedies which have had the most pronounced effect in controlling the movements are such as have a sedative action upon the spinal motor centers and the motor nerves, as, *e.g.*, the bromides, chloral, arsenic and cimicifuga. The practical suggestion arising from Professor Wood's theory is the possibility of correcting the choreic movements, or irregular motor discharges by stimulating the weakened spinal inhibition to which they are due. Professor Wood had in mind the fact well-known to physiologists, through laboratory work on animals, that quinine has a direct stimulating action upon spinal inhibition. His first experiments with the drug in this direction were upon choreic dogs and afterwards upon patients with chorea at the dispensary of the University Hospital, Philadelphia. At the time his paper was published his opportunities for observation had been very few but they were quite gratifying in that they seemed to indicate that quinine had a decided effect in controlling choreic movements.

Since the appearance of Dr. Wood's original communication there have come from other sources a few reports[1] decidedly confirmatory of his results. From our own experience, we predict that others of the same kind will follow. However, it will only be when a larger amount of reliable data are on record that satisfactory conclusions may be reached. It is hardly necessary to remind a medical audience of how extensive the therapy of chorea has been. Remedies as various and numerous as the theories which dominated their selection have been lauded, to say nothing of the list of empirical remedies of more or less repute. The later tendency has been towards a very conservative *regime*, *e. g.*, rest in bed and milk. While we believe that this tendency may be carried too far here as in other instances, it will, however, exercise a wholesome check upon too hasty enthusiasm over any new recommendation for treatment, even from eminent sources.

Since we read Prof. Wood's interesting paper we have been administering quinine to most of our cases of chorea in private and clinic practice. While we feel convinced that the drug has often a decided effect and, apparently, so far as we have observed, only a beneficial effect, we feel, of course, that the time is yet too short to decide what its ultimate status as a remedy in this malady is to be. We must not lose sight of the fact that there is a very prevalent idea that quinine should be given with caution to patients of a neurotic temperament. For this belief there is probably some basis of fact. At all events we can conceive how draw-backs may be found to the administration, in large doses, of a drug which has very decided effects upon the nervous system. Thus far we have not met them, but, on the contrary, can confirm the observations of others that choreic patients are not readily cinchonized.

[1]The Treatment of Chorea by Large Doses of Quinine, by W. A. N. Dorland, M.D., and Chas. S. Potts, M.D., Journal American Medical Association, December 16, 1893.
University Medical Magazine, June, 1894.

We subjoin the clinical notes, in condensed form, of a number of cases which will illustrate the manner in which we have been giving quinine. We have not used as large doses, nor quantities, as some who have reported cases, simply because we have not happened during this time to have cases which impelled us to do so. Among the number are two cases of considerable severity, but they so rapidly improved on moderate quantities (12 to 16 grs. a day) that we did not increase the amount.

We wish to make here an observation by way of anticipating a criticism which no doubt will occur to some in reviewing these notes and those of others, namely, that inasmuch as other medicines were given to most of the cases during the administration of quinine there is room for a question as to the effect of the latter drug. In reply we will be permitted to cite the fact that the effects of these other remedies upon choreic patients are familiar, sufficiently so, in fact, to allow a careful observer to give them due consideration in most instances. We believe that our results will appeal most forcibly to those who have observed most carefully the effect of the various remedies heretofore employed in this disease.

Quinine had been administered to choreic patients before the enunciation of Prof. Wood's theory. In fact it is probable that those who have treated any considerable number of cases, especially if practicing in malarious districts, have given it to some of their cases. So far as we can find, however, records of the fact are meager and could hardly be expected to be of much importance in the present inquiry for reasons which are apparent. The writers however, happen to have available records of two of their cases where quinine had been used previous to Prof. Wood's observations. One of them, published in the St. Louis MEDICAL REVIEW, June 15, 1889, is of peculiar interest at this time in that it is a record of a very severe and obstinate case which rapidly recovered on the use of quinine, although it had resisted large doses of bromides, chloral, arsenic, hyoscyamine, etc. We sent a copy of the published record to Dr. Wood soon after the appearance of his paper and received from him a kind acknowledgment of it.

The second case was published in the St. Louis MEDICAL REVIEW, May 17, 1893. We have included brief notes of both these cases with our other cases here recorded. In the latter case it will be observed that when we began the administration of quinine the patient had a temperature of 100° F., which fact led to its use. Although the dose was small there was a prompt abatement of the fever and a marked improvement in all respects, and after a few days we discontinued the quinine. Had we been at the time familiar with the contents of Prof. Wood's paper we no doubt would have continued the quinine instead of increasing the arsenic, and thereby possibly have avoided a general neuritis with which the patient was subsequently attacked, and on account of which the case was published. The fact of the prompt improvement in this case, and others observed by us, on the administration of comparatively small doses of quinine raises in our mind the question whether this is due solely to the modus operandi assumed by Dr. Wood, namely, to the stimulating effect of the drug upon the spinal inhibitory apparatus, and not partially, or in some instances solely, to some other effect of quinine. In venturing this query we have in mind the reputation that quinine has long had in the treatment of certain infectious and septic conditions, coupled with the fact now well-known that many authorities are strongly inclined to the belief that chorea is a disease of infectious origin.

We submit the following cases, hoping they may make a slight contribution to the study of this interesting subject. Our special reason for reporting them is that although the doses used were small we believe there was marked beneficial effect.

CASE I.—Clarence R., aged 11. First saw patient on May 7, 1894. Had first attack of chorea five years ago; not very severe, lasted six or eight weeks. Since then there has always been slight choreic movements in face. January, last, had rather severe attack which lasted longer than the first one. During November (1893), had a slight attack of rheumatism, which affected the elbows and knees, but did not confine him to bed.

Had begun to get bad with the present attack about eleven days prior to above date. He was brought to office by his father and mother with great difficulty, they having to almost carry him the short distance from the street-car. He was much excited, crying and unable to speak, and had to be held in a chair to prevent his falling to the floor on account of the severity of the movements. Much worse than he had been in either of the former attacks. Had been taking medicine prescribed for previous attack.

Prescribed 3 grs. of quinine and $^1/_{40}$ gr. of arsenious acid every four hours, and 5 grs. of antipyrine at bed time.

May 12 (five days after first visit). Marked improvement. Eating and sleeping much better. Choreic movements so much better that his father had little difficulty in getting him to the office.

May 22. Still improving. More rapidly than with former attack. Three grains of quinine and $^1/_{30}$ gr. of arsenic morning and evening, and 5 grs. of antipyrine at bed time.

June 6. Still improving. Out doors at play almost all day. Studying lessons at home a little every day. Choreic movements very slight. Continued above treatment.

June 22. Not quite so well. Three grains of quinine and $^1/_{40}$ gr. of arsenic t. i. d. and the 5-gr. dose of antipyrine at bed time.

July 7. Very well. Discontinued the quinine and arsenic and gave a teaspoonful of hydriodic acid three times a day.

July 31. Been doing well until three or four days prior to visit, when he had become greatly excited and fatigued at play, since when had not been sleeping well

August 3. Returned no better. Increased the quinine to 4 grs. every four hours with instructions to give it three times a day as soon as better; continued the chloral and antipyrine at bed time.

August 15. Had improved rapidly with increased dose of quinine. Now doing very well. Chorea hardly noticeable at any time. Reduced quinine to 2 grs. t. i. d.

September 6. Doing very well. No movements in any part of body. Mother says that he is in better condition than he has been since his first attack of chorea.

Remarks.— In this case we purposely abstained from giving larger doses of quinine in order to test the effects of smaller ones.

Case II.—Lizzie E., aged 14. On October 15, 1893, found patient in bed with very severe choreic movements which had begun about two weeks previously and for the last two days had been getting much worse. Had been taking valerian and bromides prescribed by another physician. She was much excited and had slept none the previous night. Gave ¼ gr. of morphine hypodermically and prescribed chloral. On visit next day found that she had rested very little. Gave 3 grs. of quinine every four hours and 10 grs. of antipyrine at bed time and discontinued the chloral. Next day found that she had slept very little but was much more quiet. Ordered 6 grs. of quinine every four hours and antipyrine at night. On fourth day found marked improvement; better in every respect. Reduced quinine to 3 grs. every four hours. The quinine was continued at this rate for nearly two weeks, and 5 grs. antipyrine at bed time, with constant improvement.

October 10. Been taking 2 grs. of quinine t. i. d. Choreic movements slightly noticeable in left hand; quinine was discontinued and small doses of iron and arsenic given for several weeks. She has had no return of chorea.

Case III.—Berdie L, aged 11. Has been under our observation for past two and a half years. During this time she has had three attacks of chorea, none of them very severe, but rather persistent.

August, 1893. Had her second attack. Choreic movements quite pronounced. Gave quinine in moderate doses (12 grs. per d.). Returned in day or so complaining greatly of pains and slight swelling in joints, especially in ankles and knees. We stopped the quinine and gave salicylate of sodium and strychnine, which had relieved her from a similar condition a few months before. The chorea and arthopathic troubles disappeared within a few weeks without other treatment (5 grs. of salicylate of sodium and $^1/_{30}$ gr. strychnine), which was continued for about three weeks.

November 3, 1893. Complaining again of joint-pains, no swelling. Salicylate, relief.

December 4, 1893. Prescribed salicylate again.

August 8, 1894. Another attack of chorea. Began with 3 grs. quinine every four hours. No effect after eral condition not improved although taking 20 to 25 grs of quinine a day for three days. After this, reduced the quinine to 3 grs. every four hours and gave 5 grs. of chloral and 7 grs. of antipyrine at night.

Between the middle of August and middle of September the quinine was several times increased to above amounts. Yet there was no improvement in patient's condition. Appetite and general condition poor, although patient always looks well.

September 26. Stopped quinine and gave $^1/_{30}$ gr. of strychnine, t. i. d., and 5 grs. of chloral and 10 grs. of antipyrine at bed time, and kept patient in bed fifteen to eighteen hours out of every twenty-four. Prompt improvement on this *regime*.

October 19. Choreic movements not noticeable. Patient has been feeling "splendid" for the past week. Eating and sleeping well. Very desirous of going to school, in which she had manifested no interest until she began to improve.

Remarks.—In this case quinine had no effect upon the movements. In the first attack in which we saw her we gave arsenic in large doses without any benefit that could be observed. Improvement only began when we gave the salicylate of sodium and strychnia. The immediate improvement with the administration of strychnine a second time reminds us that this old-fashioned and sometimes inconvenient remedy may still be advantageously appealed to. We have elsewhere recorded cases illustrating its prompt effect in troublesome choreic conditions,

Case IV.—Herman M., aged 17, began having chorea at 11 years of age and has had from one to four attacks each year since. The attacks were never very severe, yet there was always a pronounced choreic condition. One attack some years ago was preceded by an arthritis and lingering cardiac complication during which he was very ill. He has been better since taking quinine than at any time since this attack. Had arsenic and tonics generally previous to attack of June 24, 1893, when quinine (12 to 16 grs. daily) was administered with prompt improvement Attacks beginning December 4, 1893, and April 30, 1894, were treated solely with quinine with remarkably prompt results; 12 to 16 grs. were given daily for from five to eight days. A comparison of notes shows not only that the duration of the attacks has been lessened, but that the patient's general condition has been better since the institution of the quinine treatment. He has been under our observation all of this time, some seven or eight years.

Case V.—Annie W., aged 15. May 20, 1892. Temperature normal, respiration irregular pulse rapid, decidedly choreic, unnaturally sluggish and stupid, appetite poor. Had had rheumatism beginning on February, 29, 1892, which had disappeared. Administered arsenic and bromide of soda and increased them from time to time with no noticeable improvement.

June 3, pulse 124, face slightly puffed. Gave quinine 4 grs., t. i. d., and continued arsenic.

June 6. Some improvement in general condition, tongue looks well, pulse 124, temperature 99. Continued quinine and arsenic.

June 13. Feeling much better since taking the pills (quinine). On second day after taking pills felt like walking. Appetite much better. Gave liq. pot. arsen. 6 gtts. t. i. d. Quinine sulph. 2 grs. four times daily.

June 17. Feeling sleepy. Gave liq. pot. arsen., 9 gtts. Quinine sulph., 2 grs. four times daily.

Patient had an attack of general neuritis and was in bad shape until October (1893), when she slowly improved. Was fairly well until April 13, 1894, returned with some choreic threatenings, manifestations and feeling generally poorly, was given quinine 5 grs. t. i. d.

April 16. Feeling better. Quinine was only continued about one week longer. She has had no chorea since. We saw her last November 5, 1894.

CASE VI.—Marie R., aged 11. Saw her first September 26, 1894. Had been having choreic movements since July. A meager history of rheumatism two years previous was elicited. Lately had been having frequently sick headaches with vomiting. Choreic movements pronounced, heart irregular, with accentuated second sound, respiration choreic, sighing frequently, laryngeal click, pronounced hebetude. Gave quinine, 3 grs., t. i. d.; antipyrine, 7 grs., at bed time.

October 1. Improvement in heart's action and respiration, movements not so pronounced. Repeated above prescriptions.

October 5. Improvement in co-ordination and strength of left hand, which had been very bad, also in the respiration and heart's action.

October 10. Improvement in all respects. Facial expression improved markedly. Continued treatment as above.

October 24. No chorea apparent. Decreased antipyrine to 4 grs. at bed time. Continued quinine 3 grs. t. i. d.

November 5. No manifestation of chorea. She is cheerful and bright and wants to go to school. Grasp in hands equal, no inco-ordination.

November 12. Visited the dispensary with her sister (who came for treatment on account of deformities in legs from poliomyelitis). Laced her sister's shoes rapidly and accurately in presence of class with no show of embarrassment or awkwardness. She seems perfectly well in all respects.

Orchitis.

℞ Tinct. iodi, - - - - - - - - - fℨjss.
Tinct. belladonnæ, - - - - - - - - fℨss.
M.
Sig. Apply externally.

℞ Potass. iodid., - - - - - - - - ℨiv.
Aq. destill., - - - - - - - - fℨiij.
Syrup. simpl., - - - - - - - - fℨj.
M.
Sig. Teaspoonful three times a day.

EDITORIALS

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and as a favor, and we shall take pleasure in inserting the substance of such communications.

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The Critical Day in the Life of the St. Louis Medical Society.

Prof. Falb, as is well known, is the inventor of the "Critical Days," by which he means terrestrial disturbances in the shape of cyclones, earthquakes, etc. By putting this and that together, he forecasts these events with a surprising degree of accuracy and precision. There are a number of weather prognosticators in St. Louis regarding the medical atmosphere of this center of learning. From certain indications these savants had come to the conclusion that a storm in our medical circles was about due, and they so stated. Their prediction has come true.

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One of the periodical upheavals or seismic seizures for which the St. Louis Medical Society has become noted all over the country took place at the meeting of November 10. There had been an ominous lull in the proceedings of the body of St. Louis scientists for a number of months and the storm, which in the nature of things is preceded by a calm, did not fail to materialize. There had been an undercurrent of excitement in certain medical quarters about which the initiated only spoke in whispers. Like as the social question which is filled with problems hard to solve, an explosive ready to burst, the question of how to become a

member of the St. Louis Medical Society had assumed in the eyes of some of its members tremendous proportions, and the foiled aspirations and the blasted hopes in certain quarters had caused an accumulation of explosive material large enough to burst wide open an average-sized South American Republic.

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As in all democratic institutions, such as the St. Louis Medical Society is, there are two classes of members, the "ins" and the "outs." The outs of course constitute the revolutionary or reformatory element. Election time is drawing near. There are to be new officers. The outs, the reform element, the good fellows wronged, the unappreciated, are in this instance the professors of the "progressive" colleges. Whoever has read with some degree of attention the REVIEW, knows what this "progressive" means. The professors have come to the conclusion, that in order to give the science of medicine, as they understand it, a better chance to develop, it was absolutely necessary to infuse new blood into that rickety old corporation, the St. Louis Medical Society, which was reeking with old fogyism. For to be conservative, to be ethical, to be straight and decorous, to be non-compromising with the suspicious and shady elements which abound in the medical profession and which always tend to forge to the front and be loud mouthed above all—is tantamount to being behind the age, superannuated, obsolete, back-numbered, old fogyish, in one word, not "progressive."

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Although this "progressive" element had things to suit themselves for some time in the Medical Society, inundating that body with their communications, thus keeping out by their bellicose aggressiveness a certain other class of members, who are generally regarded as real workers, the time had come when a *coup d'etat* seemed to be indicated in order to make a clean sweep for "reform." For a number of years the four-fifths rule governing the number of votes for admission has proved only a slight barrier to keep the undesirable element out of the Society. This rule was framed by members who had the welfare of that body at heart and has been considered by the true friends of the Society as its chief bulwark against the irregulars, the medical riff raff, the rag-tag and bobtail that is constantly clamoring for admission and tries by all manners of subterfuges and wiles to gain admission to its coveted precincts. In spite of the erection of this protective wall it was stated by a member of the Society that one homeopath was elected a member, which would go to show that in spite of the exacting rules of admission a commendable spirit of liberality, perhaps even of carelessness, has governed the election of new members.

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As stated above, the annual election of a new set of officers is drawing near. The same conglomerate of men that grace and adorn the medical profession of St. Louis, who had been defeated in their laudable reformatory movements at the meeting of the Missouri State Medical Association at Lebanon, and again at San Francisco, thought that the time had come to recoup themselves and that if they could not control the State or National Associations, they were at least entitled to be the masters of the situation at home. It is our melancholy duty to report the absolute failure and utter collapse of the enterprise of these broad-minded and impulsive reformers. If the cohesiveness, the fealty, the aggressiveness, the zeal and the talent to organize concerted action—all of them qualities for which the "progressive" party is noted—if all these factors be taken into consideration, it is truly astonishing that this element in St. Louis medical politics could not muster more than thirty combatants. This shows once more that it is not the number, but the lung power which gives the impression of large numbers, majority and popularity. There is no blinking the fact that the reformers were most ignominiously snowed under by a vote of 56 to 30.

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This seems to forebode another year of disappointment and there is now a chance of galvanizing back into life again that premature infant, the Pathological Society, which was the offspring of the mental labor of the same combination, which met its Waterloo of November 10.

It has been said of the English that they don't know when they are beaten, which, of course, means that though beaten they will fight *quand mmse.* There is another class of men found among all nationalities, who, from dullness and obtundity of the ordinary moral qualities, are inaccessible to reprove, rebuke or defeat, no matter how impressive the kick or to what part of the anatomy it may have been administered. We leave it to the intellectual acumen of the reader to make the differential diagnosis as to what class the "progressive" element above spoken of belongs.

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The St. Louis Medical Society is the only one in the city which has stood the test of time and has proved its viability by many a hard fought contest within its ranks. The many side-shows which sprang into existence as the illegitimate offspring of the main body by the machinations of disappointed and ambitious schemers and conspirators, have all gone where the woodbine twineth. The old original Society still stands firm like the rock of ages, the vote of November 10 bas once more strengthened its foundations and bids fair to bring back to its meetings a certain element, that quiet, unassuming and unobtrusive element which eschews fight and dissension, and which has been conspicuous by its absence from the meetings for many a month. The chances of having a straight ticket, with straight, unblemished names, free from the suspicion of medical clique or coterie are excellent for next year.

The Difference.

The death of Dr. Oergel, assistant in the bacteriological laboratory in the Hamburg Hygienic Institute, furnishes another illustration that work in biological and pathological laboratories should be conducted with the greatest precautions with regard to protection of health and life of those employed with laboratory work. Only recently an assistant at a Berlin laboratory infected himself with a culture of tetanus bacilli, paying for his carelessness (however excusable such carelessness may be), with the penalty of death. Dr. Oergel had been working with cultures of cholera bacilli and had probably been infected by swallowing a glass of infected water. By this unfortunate accident the scientific world has been furnished with an involuntary experiment demonstrating the difference between a person susceptible and one unsusceptible to cholera. Pettenkoffer has voluntarily furnished the counter-experiment, that an unsusceptible or immune individual may swallow pure cultures of cholera bacilli without being infected. Probably there is, however, another factor in the innocuousness of the cultures swallowed by Pettenkoffer, they may have been lacking the degree of virulency neces sary to produce the disease.

BOOK REVIEWS

Annual of the Universal Medical Sciences.

A Yearly Report of the Progress of the General Sanitary Sciences Throughout the World. Edited by Charles E. Sajous, M.D., formerly Lecturer on Laryngology and Rhinology in Jefferson Medical College, Philadelphia, etc., and Seventy Associate Editors, assisted by over Two hundred Corresponding Editors and Collaborators. In Five Royal Octavo Volumes of about 500 pages each. Illustrated with Chromo-Lithographs, Engravings, Maps, Charts and Diagrams. Being intended to enable any physician to possess, at a moderate cost, a complete contemporary History of Universal Medicine. By subscription. Cloth, 5 vols., Royal Octavo, $15.00; Half-Russia, $20.00. 1894. Philadelphia: F. A. Davis Co.

Physicians are too well acquainted with the merits of the Annual to need their attention drawn to the excellency of this journal whose place in the library of the busy practitioner cannot be supplanted by any other journal in the English language; whatever is new and valuable in any branch of the medical Sciences may be found in these volumes. Increased efforts have been made from year to year by the numerous editors and collaborators of the journal to improve its usefulness. The lithographs, engravings and maps add materially to the value of the work, which cannot be too highly recommended to the medical profession.

Diseases of the Chest, Throat aud Nasal Cavity.

Including Physical Diagnosis and Diseases of the Lungs, Heart and Aorta, Laryngology and Diseases of the Pharynx, Larynx, Nose, Thyroid Gland and Esophagus. By E. Fletcher Ingals, A.M., M.D. Third Edition, Revised. With two hundred and forty illustrations. New York: Wm. Wood & Co. 1894. St. Louis: J. H. Chambers & Co., 914 Locust Street.

This is a useful work for the specialist as well as the general practitioner. It presents in a concise form the known facts relating to diseases of the respiratory tract and circulatory organs including everything that is new and valuable in that class of diseases. Questionable theories and methods of treatment which do not strongly commend themselves to the author's judgment have not been discussed thereby impressing upon the work the stamp of originality. The print, illustrations and general make up of the book are such that we can consci entiously recommend it to the practitioner and student.

The Dispensatory of the United States of America.

By Dr. Geo. B. Wood and Dr. Franklin Bache. Seventeenth Edition, Thoroughly Revised and Largely Re-written. With Illustrations. By B. H. C. Wood, M.D., LL.D., Joseph P. Remmington, Ph.M., F.C.S., and Samuel P. Sadtler, Ph.D., F.C.S. Philadelphia: J. B. Lippincott Co. 1894. St. Louis: J. H. Chambers & Co., 914 Locust Street.

This new edition of the United States Dispensatory is a work so well known for many years for its completeness and great usefulness to pharmacists and physicians that both professions will continue to find it necessary to have ready access to the same as a book of reference.

The new remedies introduced into therapeutics have been given full consideration in this edition and particular attention has been paid to pointing out those minute details in which remedies, closely allied to one another, differ in their action. An index of diseases immediately preceding the main text, is a very useful feature of this edition. Each name of a disease being followed by a list of drugs used in that disease and the number of the page which gives their description and uses.

The new chemical nomenclature which has been adopted by the best authorities including the United States Pharmacopeia has also been accepted in this work.

The atomic weights of Meyer and Seubert, or the molecular weights based upon them, adopted by the United States Pharmacopeia, are placed at the head of each chemical article in bold type, while on the right hand side of the page are placed in ordinary Roman type the molecular weights most commonly used in calculations.

To Section II of Part II about one thousand separate articles have been added. Great care has been exercised by the editors to condense the text without inter-

due to its extraordinary qualities. The present revision has been done with a great deal of care and assiduity and the editors and collaborators deserve the greatest credit for their painstaking and accurate work.

ABSTRACTS

MEDICINE.

Epididymitis.—Regarding the frequency of epididymitis as a complication of gonorrhea, I am convinced that the statistics usually quoted are unreliable, and that the percentage is far too high. The reason for this is, that many of the reports are taken from hospital patients who go to the hospital either because they have a very severe attack or on account of some complication. The most reliable statistics in this disease come from private or dispensary practice.

In the 6,000 cases of gonorrhea reported by me in the September 15th issue of this journal, 301 were suffering from epididymitis when applying for treatment, or 5 per cent of all cases. Taking the histories of 663 cases applying for treatment in July, August and September of last year, I find the report of 50 cases suffering from this complication; 40 before they came under my treatment and 10 developing after. Applying this same ratio to the whole number of cases, we find in addition to the 301 cases about 90 developing the trouble while under treatment, and this raises the ratio to about 6½%.

The complication was usually unilateral and occurring with about equal frequency on the two sides. It began usually after the third week, rarely in the first or second; and evidence could usually be obtained of a previous posterior urethritis.

Etiology.—As regards the causes which gave rise to the trouble, I think we can safely say that the inflammation reaches the posterior urethra from extension by continuity of the anterior urethritis, from thence along the ejaculatory ducts to the epididymis.

In the 50 cases mentioned, I had careful notes taken regarding the effect of treatment, and I am indebted to my student, Mr. George Chandler, for valuable assistance.

We found that 20 cases were untreated or irregular, 13 were treated by balsams and 17 used both balsams and injections. In the latter class are included the 10 cases developed while under my treatment. I also wish to call attention to the fact that in the 663 cases only 1½% developed the complication. I believe that douching the urethra with non-irritating antiseptic solutions during the first few days of the attack is a prolific cause of epididymitis, and that the patient should be warned against it. Rest in bed is also important, as the disease is more likely to develop. Consequently we should always be on the lookout for symptoms pointing to extension and stop all local treatment as soon as they appear.

Symptoms.—Sometimes the onset of the symptoms is very sudden, while in others there is a prodromic period. The patient complains of general malaise, slight chilliness and anorexia, vesical tenesmus, with pain in the inguinal region, near the external ring, radiating into the testicle. There is a dragging sensation in the spermatic cord and the suffering is intense.

In cases examined during this stage I have found swelling at the external abdominal ring, the spermatic cord swollen and tender to the touch, and in a few cases there have been symptoms of peritoneal irritation.

Within 24 hours the inflammation has involved the whole epididymis, which can easily be mapped out at first, but when the inflammation has extended, as it frequently does, to the tunica vaginalis, we get effusion of fluid, and a large regular tumor is the result. Sometimes this inflammation extends further and involves the skin and subcutaneous tissue, and an abscess may result. I recently had a case of this kind. I opened the abscess as soon as fluctuation could be obtained, and the wound healed readily by granulation, leaving only a small depressed scar.

In the majority of the cases treated the patients were unable to take to their bed, and for various reasons were obliged to attend to their usual duties. This made the suffering more intense, and they showed it in their drawn expressions and the deep black lines beneath the eyes. The discharge from the penis usually ceases, or is much diminished, to return again after the subsidence of the epididymitis.

Examination per rectum reveals frequently a swollen prostate, and sometimes a swollen vas deferens, and occasionally swelling of the seminal vesicles. The symptoms reach their height in three to five days, when there is beginning improvement; recovery, with the exception of a thickened nodule, usually taking place in about two weeks.

Diagnosis.—There is little difficulty in arriving at a correct diagnosis. The history of gonorrheal urethritis and its acute onset serve to distinguish gonorrheal from tubercular or syphilitic epididymitis. In traumatic inflammation of the epididymis the testicle is usually involved, but recently I had a case where the inflammatory process was confined to the epididymis. This patient had never had gonorrhea, and injured himself while riding horseback.

Prognosis.—The prognosis is good as far as the disappearance of the active symptoms are concerned. Bu there is always a thickened nodule left, and this enlargement can be felt in many cases several years old. When both sides are involved this may cause sterility.

Consequently we should always try to prevent the involvement of the second testicle.

We must admit that we have not entirely cured the case, when, as in all the cases under my observation, there is induration and thickening left behind.

It is a point of diminished resistance, and I have had three patients develop tuberculosis in this nodule. Whether it originated primarily in the epididymis or in the prostate, I am not able to say, as both locations were involved when the patients came under observation.

Treatment.—I stop the injections and balsams and put the patient on the following pill: Hydrarg. iod. viride, grn. ¼; pulv. glycyrr., grn. 1, and ext. hyoscyam. grn. 1. This is given three times a day. Morphine may be indicated by severe pain, but, if possible, should be avoided. Advise rest in bed. Locally, lead and opium wash may be employed by means of a compress covered with rubber tissue, and over this a good suspensory bandage may be applied to hold the compress in place. The patient is instructed to keep the compress constantly moist by frequent reapplication.

This has practically the effect of a poultice; the opium seems to relieve the pain, and the lead water contracts the scrotal tissue. I have tried many methods of treatment, but I find this the most satisfactory. When the acute symptoms have subsided, I use ointments of mercury and iodide of lead to favor the absorption of the induration.

Next in usefulness I will mention the tobacco poultice, or the simple flaxseed poultice. Ice is very efficacious in relieving the pain, but the induration left behind is firmer and more difficult of absorption.

Strapping the testicle with strips of adhesive plaster prevents swelling, but to cause absorption I consider it useless. If it is put on too tightly it causes pain, and may cause atrophy of the testicle; and as soon as there is any diminution of size the pressure ceases and must again be reapplied, which is a disagreeable operation, and not justified by the results obtained.

I wish especially to call attention to the necessity of treating the posterior urethritis after the epididymitis is relieved. This should always be carefully attended to, otherwise a recurrence of the epididymitis may be expected.—Bernard E. Vaughan in *American Medico-Surgical Bulletin.*

Purulent Necrotic Mediastinitis, with Pericarditis and Double Empyema, Resulting from Suppuration of a Submaxillary Gland.—Middleton (*Glasgow Medical Journal*) has reported the case of a boy, eleven years old, who complained of pain in the front and left side of chest. A week previously a small swelling had been observed under the lower jaw on the right side, which was supposed to have arisen from a bad tooth. A day later pain was felt in the breast, and shortly afterward a pericardial friction-sound was detected. The dyspnea was marked, the respirations numbering 50 per minute, and causing great pain. The temperature was 100.2° and the pulse 132; irregular, small and easily compressible. The pain in the breast was described as griping, while that in the left side was stabbing in character. The recumbent posture was attended with distress; the most comfortable position was lying on the right side. The swelling below the lower jaw on the right side was of considerable size, extending quite down to the level of the clavicle, and was fluctuant, red and inflamed-looking. Continuous with this swelling in the neck there was marked edematous swelling over the upper part of the thorax on both sides of the middle line, with dullness on percussion. Over this area an emphysematous crackle was on one occasion made out on pressure. Pericardial friction-sounds were made out all over the precordial area, and in the left lateral region and back pleural friction-sounds were also heard. The temperature rose to 103° and the boy became delirious; the pulse varied from 132 to 158 and the breathing from 42 to 50 in the minute. The aspect became ashy-gray and the finger-tips livid. The dullness on percussion over the lungs extended rapidly, and the pericardial friction-sounds persisted. The condition grew progressively worse, and death ensued. When the soft tissues were reflected from the front of the neck and chest they were observed to be markedly edematous; but there was no subcutaneous emphysema. The tissues lying in front of the trachea were thickened, opaque and vascular, as if from the near presence of inflammatory change, and in cutting into the region of the right submaxillary gland, a foul-smelling abscess was opened. Both pleural cavities contained from six to ten ounces of fetid pus, and the loose connective tissue of the mediastinum, from the suprasternal notch to the diaphragm, was infiltrated with pus and practically in a condition of slough. This sloughy condition was abundantly present on the external surface of the anterior layer of the pericardium; but the pus infiltrated tissue could with tolerable ease be separated from the underlying pericardium. On opening the pericardium a very recent and very moderate generalized pericarditis was disclosed, sufficient to cause only a slight roughening of the surface. The right pleura presented old connective tissue adhesions infiltrated with purulent matter. On dissecting the structures in front of the trachea a direct channel of communication was found between the submaxillary abscess and the mediastinum. No roughness or other evidence of disease of the lower jaw could be detected. The mucous membrane of the larynx and trachea was congested and covered with blood-stained mucus.

Recovery from Tubercular Meningitis.—When a man reports a case of recovery from tubercular meningitis, clinicians, generally, are apt to consider it a case of mistaken diagnosis. The recent case of Freyhau's (*Deutsche Med. Wochenschrift; Omaha Clinic*) is remarkable in the fact that the diagnosis was rendered as certain as possible by the discovery of the tu-

berculi bacilli in the liquid obtained by puncturing the sub-dural space of the vertebral canal. The patient was a young man, previously healthy, with a good family history, who was suddenly attacked with symptoms of acute meningitis, and the diagnosis of simple cere bro-spinal meningitis seemed clear, especially as the disease was epidemic in that locality at the time. To be as sure as possible, the vertebral canal was punctured in the lumbar region and in the sediment of the liquid that spurted out a few pus corpuscles and charac teristic tuberculi bacilli were found. A week later, the puncture was repeated and tuberculi bacilli again were found in the fluid. With this light on the true nature of the case, all hope of recovery was abandoned, but to the surprise of the attending physicians an improvement, which showed itself soon after the first puncture, continued; the fever became less, the mind cleared up, the headache disappeared, and finally the man was discharged, well, except for a stiffness of the joints and a slight optic neuritis which persisted for two or more months at last accounts; eight months after the beginning of the trouble his health continued to be good. Although it is by no means certain to our mind that the man is permanently over his trouble, his case is one of extreme interest. It illustrates the great value of the aspiration of the vertebral canal as a means of diagnosis; for without it the diagnosis of epidemic cerebro-spinal meningitis would undoubtedly have been persisted in, and the apparent recovery would only have confirmed this view. With regard to the influence of the puncture on the recovery, Freyhau is skeptical. It will be remembered that Quincke proposed this procedure as a therapeutic measure in cere bro spinal inflammation, but this is the only case out of many in which it has been tried in Fustringer's clinic (where Freyhau is assistant), where it has seemed to do any good.

The Defenses of Great Britain Against Cholera.—The *Daily Graphic* of September 25 gives the British public a view of the official methods of protecting the United Kingdom against invasion by chol era. It speaks in glowing metaphorical terms of the medical officer of the Local Government Board, Dr. Thorne Thorne, seated as a general in his room at Whitehall, calmly noting on his maps the progress of the enemy, deliberately making preparations to meet and avoid its attack on Great Britain, and sending out his lieutenants and aides de camp to destroy the advanced scouts of the invading force, which, in spite of all vigilance, sometimes succeed in gaining an entrance at the seaports.

Information is first obtained by telegraph through the Foreign Office or from the British Consuls abroad that an infected or suspected ship has left an infected port. Directly the vessel arrives at a British port it is boarded by the port medical officer of health. All the cholera cases are at once taken off the ship and placed in hospital, and further, all suspected cases are detained forty-eight hours in order that it may be seen if they develop cholera. The rest of the passengers are allowed to depart after they have given their names and the addresses to which they are going. The medical officer of health of the town or district named is then notified that such a person will arrive, and on arrival he visits him and keeps him under surveillance until all danger is past. If the suspect sickens of cholera, or even of diarrhea, he is at once isolated, his clothes are burned, all discharges are disinfected, the drains, etc., of the house flushed with disinfectants and precautions taken to avoid infection of the water supply. In this way each case of cholera all over the country is detected and watched, and the spread of the disease arrested from the outset. Thirty-five cases of cholera were imported into England in 1892 during the period that Hamburg suffered so severely; and of these six occurred among persons who had left the seaport of arrival in a condition of apparent health; but owing to this system of surveillance the exact whereabouts of each was known, the disease treated and its spread arrested without delay. This was the history of cholera in England in 1892. Since then the medical inspectors of the Cholera Survey have been engaged in visiting the ports all round the coast and those inland towns where a heavy enteric fever mortality gave an indication that they might be suitable places for breeding cholera, owing to their various sanitary neglects; in fact, all places where the water supply was subject to pollution. This work has been done quietly and without publicity—perhaps too much so; the corporations or sanitary authorities meet the medical inspectors; the faults of imperfect sanitation are pointed out to them and they are advised how to provide the available remedies so as to make the population of whose health they have charge safe against the invasion of cholera.

From the point of view of this great improvement in local and general sanitation the *Graphic* speaks of "that blessed word 'cholera.' Cholera scares have been, in fact, blessings in disguise, and have done more than anything else to improve the health conditions of this country." Much credit is given to the medical officers connected with this service. Their work is characterized as truly admirable. "It demonstrates once more, if any such further demonstration is needed, how great are the services quietly and devotedly rendered by medical men, not only in the cure, but also in the prevention of disease. The port medical officers have time and again spent days and nights on the water, sleeping on board ship so as to be ready at a moment's notice, regardless alike of personal risk and individual comfort. The really heavy work has fallen, to a great extent, on them, and no one acknowledges their distinguished services more emphatically and enthusiastically than Dr. Thorne Thorne himself, who loses no opportunity of doing justice to them. The medical inspectors of the Local Government Board have also been incessantly on the alert, traveling by night and working by day, and although the cholera scare has temporarily passed

away their vigilance is not relaxed and the Sanitary Survey is still going on." The health officers of London, Newcastle-on-Tyne and Hull, Drs. Collingridge, Armstrong and Mason, are specially mentioned in the article for their earnest and valuable services.—*Journal of the American Medical Association.*

The Early Treatment of Gonorrhea.—After treating gonorrhea for many years with silver solutions, Dr. Von Sehlen (*Monatschefte f. Praktische Dermatologie; Therapeutic Gazette*) formulates his experience in the following way: The duration of treatment depends upon the length of time of infection before handling the case; therefore the applications must be made as early as possible. In favorable cases, when the infection is not longer than four days, the case should be cured in one day.

In case of infection lasting eight days before treatment, three to six days are necessary for a cure; infection of eight to fourteen days requires twenty days and upward.

The early treatment retards the progress of the disease along the urethra and lessens the course of the trouble, even when the gonococcus persists.

Despite the disappearance of the cocci, recurrence is not impossible, and careful watchfulness on the part of the patient is necessary while the gonococcus, through the silver applications, loses its growing energy.

In fresh cases, up to the third or fourth day after the infection, strong solutions (from one-fourth to one per cent) of silver nitrate can be injected by means of the usual small syringe; the meatus being tightly held and the urethra being rubbed backward and forward, the solution reaches all the urethral mucous membrane. This is repeated until the mucous membranes are seen to be coated white with the silver precipitate, while the fossa receives a special application of a two per cent solution and is coated with europhen powder, which proves a good protector.

In cases of longer standing than four days, he applies, by means of the two-way catheter, feeble solutions (from .1 to 1 pro mille) in distilled water, warmed to the body temperature. The urethra soon becomes accustomed to stronger solutions, and after a few days the solution may be increased from one-fourth to one per cent, which can then be applied by means of the syringe.

SURGERY.

Intestinal Obstruction Following Operations in Which the Peritoneal Cavity is Opened.—Obstruction of the bowels causes between one and two per cent of the deaths following ovariotomy and other operations involving opening of the peritoneal cavity. The author states that he has been able to collect in the literature and from personal communications no fewer than seventy-five deaths from this cause. He divides secondary or post-operative intestinal obstruction into two classes of cases, one due to mechanical causes—adhesions, peritoneal bands, volvulus, accidental fixation by suture, etc., and perhaps compression in exudation masses—and another due to paralysis of peristaltic movement of the intestines following sepsis or injury to the nerve supply of the muscular coat. The obstruction may be acute—*i. e.*, occur immediately after or within a few weeks subsequent to the operation—or it may develop gradually and not become complete until months or years afterward.

The majority of cases in which the cause of the obstruction was ascertained by operation during life or by necropsy, have been found to be due to abnormal fixation of the intestines by adhesions or to compression by peritoneal bands or cords inflammatory in origin. Any hindrance to the passage of the contents of the bowel at the point of flexure causes dilatation above and consequent increase of the degree of flexion. When this occurs there is at first increased peristalsis, but if the obstruction is not soon overcome the circulation is interfered with, dilatation of the bowel with paralysis of its walls follows, and the anatomical picture of the obstruction is complete.

Volvulus sometimes occurs after abdominal section, but probably only after some previous adhesion or constriction of the bowel.

There seems to be no question that by far the larger proportion of cases of post-operative intestinal obstruction are due to adhesions of the intestines to each other, to the abdominal walls, or to other viscera.

The symptoms are essentially the same as those of primary obstruction; but they are often marked by pain, vomiting and tympanites—so frequently present after abdominal operations without being significative of obstruction. Unless the obstruction is due to some untoward occurrence in the technique, the significant symptoms are not likely to present for several days subsequent to the operation. If a patient does well for three or four days or longer after an abdominal section or vaginal extirpation, and is then suddenly attacked by pain followed by vomiting, tympanites and inability to pass feces and flatus, the diagnosis of intestinal obstruction is probable. If the vomiting becomes fecal, the pulse rapid, the urine scanty, and symptoms of collapse set in, the diagnosis becomes reasonably certain. All these symptoms, however, are not uniformly present in obstruction. When the obstruction is high up in the small intestines fecal vomiting is usually absent and distension is likewise less marked. In these cases, also, the bowels may move several times after the pain begins, so that the diagnosis may be more or less uncertain.

An important point is the occurrence of local distention of the bowel above the point of occlusion in mechanical obstruction. This distention begins at the point of obstruction and extends upward along the course of the bowel. In mechanical obstruction, there-

direction of increase in size being along the course of the constricted bowel above the constriction. The distention is attributed to rapid decomposition of the arrested intestinal contents. Coincident with this local meteorism is an increased peristaltic movement of the bowel, also above the obstruction. In the later stages, particularly if septic peritonitis with paresis of the intestinal walls has occurred, these diagnostic signs are no longer available. In cases of obstruction due to paralysis of the intestine from the beginning (probably always a consequence of the septic peritonitis) these symptoms are not present. Here there is a uniform globular distention of the abdomen without movement of the intestines, and without noticeable contours of the bowels through the abdominal walls.

An additional sign is furnished by the urinary reaction. It is claimed that in complete obstruction of the ileum there is always indican in the urine. In obstruction of the colon or high up in the small intestine this reaction is usually not present. The reaction is obtained by boiling a small quantity of the urine in a test-tube and adding nitric acid *guttatim*. The urine turns to a Burgundy-red color, and a similarly colored precipitate is thrown down. If urine yielding this reaction is shaken a violet-colored foam is produced. So long as this remains the case is a grave one. If, after operation for relief of the obstruction, the reaction persists, the obstruction has not been removed. In cases where the obstruction is relieved the reaction disappears within twenty-four hours. While this sign must be regarded as a very important one, it is not absolutely pathognomonic, as a similar reaction occurs in some other morbid conditions.

The prognosis of primary intestinal obstruction is sufficiently grave. Following closely upon an operation so serious as abdominal section or vaginal extirpation of the uterus, this gravity is enormously increased. The abdominal surgeon should therefore be prepared to promptly recognize and appropriately treat this unwelcome complication. The knife is not always to be resorted to at once in the treatment of this condition, but when other means fail to give relief the surgeon should not hesitate to operate, as delay, in cases not otherwise curable, always increases the danger of operative measures. Cases occur where the symptoms may point to obstruction by means of adhesions, peritoneal bands or volvulus, and yet there is a possibility that there may be simply functional obstruction. In such cases other means may be tried until it is found that they are ineffective.

The author condemns the so-called "medical treatment" by means of opium or drastic purgatives. But certain procedures are frequently indicated, and though they are not often curative, certainly give temporary relief. Such measures are stomach-washing, rectal inflation of gas or air and injections of fluids. In stomach-

The author also mentions the following method of Klotz: As soon as symptoms of obstruction appear the stomach is washed out with from four to six quarts of warm salt solution. Should this fail to relieve the symptoms it is repeated and a large dose (one and a half to two ounces) of castor oil is passed into the stomach through a tube. In all cases so treated by Klotz the active peristaltic movements set up caused passage of flatus and feces within ten hours. Evidently it is only in cases of fresh and friable adhesions that this method can be successful.

Rectal injections of water or air may at times be curative when the obstruction is due to intussusception, volvulus or to soft adhesions of the lower portion of the intestine, but where the obstruction is due to cords or bands they can manifestly be of no avail. They should therefore not be pushed beyond a reasonable trial. Care must be taken not to use too much pressure in making rectal injections, for fear of rupturing the bowel. Attempts to force the ileo-cecal valve must be regarded always as ill-advised. Too much care cannot be used in passing a rectal tube high up into the colon, as the author has seen one instance of perforation of the sigmoid flexure where this was attempted.

The rational treatment of intestinal obstruction following abdominal section is to re-open the abdomen, seek for the place of obstruction, relieve the same by separating adhesions, dividing constricting bands or untwisting a volvulus. If the gut is much distended an incision to let out the gas and fluid feces may be made and the bowel afterward carefully sutured. Gangrenous intestine must be resected and the ends joined by suture or Murphy's button. If the obstruction is due to a volvulus it would probably be always advisable to resect the twisted portion of the gut, as the volvulus is extremely likely to recur.

When practicable it is probably always best to make the incision in the middle line, as it permits more thorough and ready exploration of the abdominal cavity. Search should first be made for the obstruction in the iliac regions, as here obstruction is most likely to occur. If not found in either of the iliac fossæ and if it cannot be located by local distention, the entire length of the intestine must be passed through the fingers until the constriction is found. As it not infrequently happens that there is more than one point of constriction, the examination should be thorough.—Geo. H. Rohe, in the *Amer. Jour. of Obstet.*

A New Method for the Radical Treatment of Femoral Hernia.—Fabricius (*Central. f. Chir.; Amer. Jour. of the Med. Sciences*) describes the following operation: An incision four to five inches long is made from the insertion of Poupart's ligament parallel to it, down through the superficial fascia, exposing the superficial epigastric vein. If the hernia passes under

the lesser falciform process the sac may now be seen; if, however, it has passed beneath the superficial layer of the fascia lata, that must be cut off before it is exposed. The hernia should now be reduced, the sac ligated and removed and the stump returned into the abdomen. If the constriction is too great, Poupart's ligament should be divided at its insertion on the inner edge of the horizontal ramus of the pubes, or, where it is possible, on Cooper's ligament. This relaxation of the ligament also permits the full exploration of the hernial canal and the removal of any lymphatic glands or tissue it may contain, and makes possible the suturing as described later.

After the crural sheath has been freed, with the contained vessels, it should be displaced outwardly over the ilio-pectineal eminence, where they should be held by a blunt hook, while Poupart's ligament is sutured to the horizontal ramus of the pubes. A sharply curved needle should be used, and the stitch should take in about three-eighths of an inch of tissue above Poupart's ligament, the horizontal portion of the pectineal fascia, the primary fascicles of the pectineal muscle and the periostéum. In inserting the first stitch next to the large vessels, care should be taken to avoid the inferior epigastric artery and vein. The ligament should be sutured from that point to the pubic spine, uniting it again to the inner border of the horizontal ramus. Care must be taken in all cases to include the periosteum. The superficial portion of the fascia lata may or may not be sutured to the pectineal fascia. To prevent inguinal hernia, the pillars of the external ring should be sutured. There is no danger of obstructing the circulation by the displacement of the artery and vein, though there may be slight edema at first.

Resection of the Cecum.—Sendler reports a case of resection of the cecum, and makes the following observations (*Muenchener Medicinische Wochenschrift; Amer. Journ. of the Med. Sciences*): Resections of the cecum are rare, Sachs having been able to find but thirty cases. The chief indications for the operation are carcinoma and terbuculosis, and in a few instances on account of invagination. The case reported is that of a young woman of twenty-two years, who for some time had had intestinal obstruction. The trouble began suddenly, with severe pain in the right side of the abdomen, after having had a good night. The pain was so severe that she was obliged to return to bed. The pain continued for three weeks, but fever and vomiting were absent. Four weeks afterward there was a second attack, lasting three days. Two more similar attacks occurred, and finally a constant pain and swelling were noted in the region of the appendix.

Examination of the right iliac region revealed a distinct, firm, painful tumor. The diagnosis was extremely doubtful, inasmuch as there was no family or personal history bearing upon her condition, nor any pronounced symptoms which would lead to an opinion.

Incision was made over the most prominent part of the tumor. The cecum was found adherent to the abdominal wall, and in attempting to free it the wall was torn, and fecal matter flowed out and was caught on the gauze. It was now clear that the whole cecum had been transformed into a tumor, which involved the appendix, a portion of ileum and ascending colon, and continued, growing thinner, to the root of the mesentery. The tumor was removed by first excising the mesenteric portion, applying many ligatures, and suturing the mesentery at once. Intestinal clamps were then applied to the gut on each side of the diseased portion, and the growth, with the cecum, appendix, and part of the ileum and ascending colon, removed. The ileum was implanted in the colon, as after pylorus resection, so that the size of the two divided ends were similar. A continued mucous suture was employed, then a seromuscular suture of silk, and where necessary serous sutures. After removing the clamps the intestine filled immediately, so that the apposition was seen to be perfect. The abdominal wound was closed with three layers of sutures. Convalescence was uneventful; in the third week she left her bed, and four weeks after operation left the hospital. She has remained well, and the bowels are moved spontaneously and naturally.

The specimen proved to have been a carcinoma, beginning in the valve of Bauhin. Swollen mesenteric and inguinal glands were sought for but not discovered.

Diagnosis of Cerebellar Tumors.—Dr. Ashby of Manchester, contributes an interesting paper in the *Practitioner* dealing with this subject and giving shortly and simply the history and symptoms which justify the diagnosis of such a lesion. The prominent symptoms of which a history is obtained are headache, vomiting of varying severity and strabismus. The headache is either occipital or frontal, although sometimes it is distinctly referred to the side of the occiput on which the tumor is situated. The internal strabismus is in Dr. Ashby's experience an early and frequent symptom; it is not always double and is a result of paresis of one or both sixth nerves. Optic neuritis also is a common and early symptom, being usually succeeded by limitation of the visual fields, finally by blindness. The peculiar walk known as "cerebellar ataxy" is also said to be present in some cases and in other cases a staggering gait. Dr. Ashby expresses some doubt with regard to the existence of a special "cerebellar ataxy," and states that he cannot recall a case in which he was able to satisfy himself that it was present. The gait, he says, of a child with cerebellar tumor is that of one learning to walk, characterized by a great deal of clumsiness and a readiness to fall, this, however, being due to weakness of the limbs and not to ataxy. He never has seen a case in which, apart from the results of spastic rigidity, there was any tendency to fall to one or other side. The other symptoms to which Dr. Ashby refers are the usual increase in the knee-jerk, although its occasional and unaccountable absence is noted, the enlargement of the head and the occurrence of fits characterized by retrac-

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cently to record the result; Smith, of St. Augustine, Florida, operated on "an apparently hopeless case of hypertrophied prostate with marked sepsis, cystitis, beginning uremia," etc. "The patient, fifteen weeks after the operation, had gained forty five pounds, and had no symptoms of cystitis or other urinary trouble. He urinated freely and normally."

In January, 1894, the author operated on a medical ıan, aged sixty-nine years, whose prostate was about lf the size of an orange, who had passed no urine ept by the catheter for years, whose urine was loaded mucus, was offensive, and at short intervals was sely mixed with blood. Fourteen weeks later, examination showed a reduction in the size of state to about the normal dimensions. He had ated spontaneously, but while before the operaıs necessary to introduce the catheter nine and nches before reaching the bladder, at the time the report urine began to flow when the caeen passed but eight inches. Furthermore, on is easy and painless, instead of difficult ful, as it was before the operation. The l in appearance, odor, and all other relood has appeared for two months.

e of Femoral Hernia — Steps rocedure.—Dr. A. H. Ferguson *ractitioner*) says:

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A New Operation for the Radical Cure of Inguinal and Femoral Hernia.—Dr. C. A. L. Reed (*Medical Record*) describes the operation as follows: The incision in inguinal hernia is made from a point two inches above Poupart's ligament, midway between the anterior superior spinous process of the ilium and the spine of the pubis, obliquely downward and inward as nearly as possible consistent with the access of the inguinal canal to a point at the base of the scrotum. The dissection is then carried into both scrotal and pelvic cavities. The protruding viscera are then reduced and carefully inspected after being brought out above. The sac is then carefully dissected from its scrotal connections and reversed by invagination. It is then opened by two incisions, one toward the pubes, the other toward the ilium, being thus converted into an anterior and a posterior flap. The cord is now dissected loose and placed in the canal, now denuded of its peritoneum at its outer angle. The internal ring is closed by several interrupted sutures, animal or buried silk, these sutures being applied beneath the peritoneal flaps formed by splitting the sac, care being taken that in the closure of the ring undue pressure shall not be brought to bear upon the cord. The posterior peritoneal flap is now excised, the stump being ligated should there be any necessity for doing so. The anterior flap is carried across the now obliterated internal ring, and stitched by interrupted sutures to the posterior parietal peritoneum. The external ring is now closed by passing a number of sutures through its pillars externally to the cord, which is now fixed in the internal (pubic) angle of the outlet of the canal. The incision into the abdomen is closed by interrupted figure-of-eight sutures, the internal loop embracing the peritoneum, the aponeurosis of the transversalis and of both oblique muscles, and the external loop embracing the superficial fasciæ, fat and skin. These sutures should not be more than three fourths of an inch apart. The incision into the scrotum may be closed in the ordinary way. Drainage should not be employed except in the presence of marked oozing or obvious infection.

The Preparation of the Fingers and Nails for Surgical Operations.—Allis (Maryland *Med. Jour; Therapeutic Gazette*) thus discusses the finger-nails from the standpoint of the operative surgeon:

The nails form no mean part of a surgeon's outfit. As a covering to the end of the finger they give confidence; in the threading of needles they are often indispensable; while often, when working among adhesions, they may serve a good turn. If the nails are too long, they are in the way, and if too short, a privation. A medium length of nail is an exceedingly valuable helper at times. With some the length of nail is governed by the ability to keep it clean; hence the nail is kept very short, much to the disadvantage of prehension, in which man excels.

The surgical care of the nail has had its full share of attention. The nail-brush forms a part of every physician's and surgeon's outfit. It is cheap, compact and moderately thorough. Its disadvantages are, that if stiff, it is apt to scratch the hand or cut beneath the nails; if soft, it is of little value. To supplement the defects of the brush, some persist in using the point of the nail-blade of their pocket knives. The writer says persist in using, as much has been written against the practice. Not only is there danger of cutting the flesh beneath the nail, but it leaves the under surface of the nail rough, making it a ready collector of filth, and less easily cleaned for a subsequent operation.

To avoid the knife he uses a little wedge-shaped piece of soft pine. This, when wet, frays up, makes a kind of mop, is a good carrier of soap, and enables the user to wash out under the nail. The objection to this device is that the pine rapidly frays out, becomes bulky and requires frequent trimming. Therefore the author employs a rubber eraser. A variety is made for artists and school-children that is wedge shaped. This is ready for use as it is found at the stationer's, though if made a little sharper it is softer and more like a mop. It is pliable, soft and an excellent carrier of soap. For the hand, generally the old-fashioned wash-rag cannot be improved upon. It is a good carrier of soap, and with it each finger in turn can be tightly caught and wrung until clean. With the nail- or hand brush only the back and front of the fingers get the scrubbing.

In addition to the implements usually deemed important for the cleanliness of the under surface of the nails, a very valuable one is the nail itself. Noticing that a young lady's fingers whom he frequently met were always exceedingly neat, the writer made bold to ask her methods, and learned that she had nothing more modern than a pair of scissors to trim her nails, and that with wash-rag and the tips of her finger-nails she kept her hands in most perfect order. One thing that may be said of the finger-nail as a nail-cleansing instrument is, that it will not scratch the under surface of the nail, a very important factor in the process, whether one aims at beauty or cleanliness.

Removal of the Tongue for Cancer.—Butlin (*International Journal of Surgery*) reports a series of forty-six consecutive cases in which at least half the tongue was removed for cancer, with but one fatal result. The great majority of the operations were not complicated by removal of the lymphatic glands or ligature of the lingual artery. Nineteen of the patients were above sixty years of age, and some were suffering from organic disease of internal organs. All the operations were performed by Whitehead's method,—that is, a ligature is passed through the end of the tongue; this is drawn forward and loosened from before backward by small snips with a pair of long scissors. When the disease is situated wholly at the base of the tongue the

by means of an applicator is best calculated to keep the wound in an aseptic condition. Wound secretions are prevented from gravitating into the air-vessels by keeping the patient's head low and letting him lie well over from the side from which the tongue has been removed. The feeding of these patients needs great attention. When not more than two-thirds of the organ has been removed, liquids can generally be taken on the day following the operation from a feeder with a spout, provided a piece of india rubber tubing three or four inches long be fixed on the spout. If the right half of the tongue has been removed, the patient should lie over on the left side during feeding, so that the food is kept as far as possible from the wound, and passes over the parts which have been least interfered with.

When the whole of the tongue has been removed, the difficulty of swallowing is much greater, and many days may elapse before the patient acquires the knack of swallowing liquids without permitting a small quantity to pass down the air tubes. During the first forty-eight hours these patients are fed through the rectum with nutrient enemata. At the end of that period the patient is allowed to make a first attempt to swallow a little liquid, and water is chosen for the experiment, because the entrance of a little water into the trachea is seldom followed by any serious consequences. Milk and beef-tea are more dangerous; they hang about the air-tubes, are difficult to get rid of, and are very prone to undergo rapid decomposition and occasion the much-dreaded swallowing pneumonia. If the experiment is successful, other liquids may be tried, and the problem of feeding is really overcome; but if there is any difficulty, the patient is fed as long as may be necessary through a tube. Butlin believes no instrument is so good for this purpose as a black bulbous catheter, about No. 9 or 10, attached to a long piece of india rubber tubing, to the other end of which a small glass funnel is fixed.

The throat is first sprayed with a three or four per cent solution of cocaine; the tubing is clamped with forceps just above the attachment of the catheter, and the funnel and tubing are filled down to the clamp forceps with warm food. The catheter is very gently passed down the pharynx, and hitches at the posterior border of the larynx. The patient is directed to swallow, and as he dose so the catheter is easily passed on into the esophagus. For the moment discomfort is created, and the patient often struggles. He is directed to close his mouth and no attempt is made to pass the catheter farther down for half a minute or longer. Then it is slowly and gently passed down to a distance of about eleven inches from the teeth. When the annoyance of the presence of the catheter has ceased, the clamp is removed and the food is allowed to run slowly down into the stomach. If there is an inclination to regurgitation or to cough, the descent of liquid is instantly arrested by pressing on the tubing with the finger and thumb, and the nurse lowers the funnel until the dangerous moment has passed. By attention to these details a pint or a pint and a half of liquid may easily be introduced into the stomach without danger. Before removing the catheter the funnel is raised high up, so as to get rid of the contents of the tube, and during the actual removal of the catheter the tubing is kept tightly pressed between the finger and thumb in order to prevent the entrance of even a few drops into the larynx. When the feeding is carefully carried out according to these directions, Butlin has patients so satisfied with it that they have sometimes insisted on being fed through a tube for a much longer period than the writer deems necessary.—*Therapeutic Gazette.*

The Fate of Thiersch's Skin Grafts.—Goldmann (*Beitrage zur Klinischen Chirurgie; Edin. Med. Jour.*) says that when a wound has been successfully grafted after the manner of Thiersch, healing occurs without the formation of granulations and with scarcely any cicatrical contraction. After a few months the new skin is reddish and somewhat glistening; it is on the same level as the surrounding skin; it is more or less moveable on its bed, and frequently possesses both tactile and thermal sensibility. When the changes in the grafts are examined in detail, it is found that in the first instance there is some desquamation of the horny layer, while at the same time there is active proliferation in the middle layers of the epidermis; ultimately the epithelium as a whole is thin, and the papillæ are of small size. An entirely new vascular network is formed beneath the epidermis, which nourishes the latter, and persists for years, which accounts for the redder tinge of the new epidermis and differentiates it from the surrounding skin. The grafted skin reaches the level of the surrounding skin surface more rapidly when the grafts are placed on a vascular bed; in the forehead this level has been attained in four to six weeks. It fails to attain this level when the grafts are placed on a granulating surface, as in the latter case there will be cicatricial tissue beneath the new skin. After an interval of months the mobility of the grafted skin is so developed that it can be lifted up in folds from the tissues beneath. Return of sensibility occurs sooner at the margins than at the center of the grafted area, and where large gaps have been filled up it may not return at all.

In discussing the anatomical basis of these clinical facts, the writer points out that the normal mobility of the skin on the subjacent tissues depends on the network of elastic fibers which connect the former with the latter. By adopting a special stain for the elastic fibers, he was able to prove that these were abundantly formed in the true skin beneath the grafts, and that they were prolonged right up to and into the papillæ, so as to end immediately beneath the epidermis. The presence of the new elastic fibers, derived from the mother skin, gives the grafted skin greater resisting power, so that it is able to withstand traction and pressure. Inasmuch as granulating and cicatrical processes hinder or prevent this growth of elastic fibers into the graft, we are able

to understand why the results obtained are so much better when the grafts are placed on a recent wound than on one which is granulating. It is also to be noted that the development of the elastic network explains the absence of cicatricial shrinking of the transplanted skin. The new vessels which are formed from the mother tissue have a greater influence in raising the grafted area to the level of the surrounding skin. In this they are assisted by the formation of elastic fibers and of young connective tissue. In a successful case there is no scar tissue to be seen. The return of sensibility to touch, pain and temperature is explained by the formation of new medullated nerve fibers, which are probably also derived from the mother tissue and which the author has traced into the grafted skin. This method of grafting succeeds at all ages to an equal degree.—N. Y. *Medical Journal.*

The Treatment of Floating Kidney.—Reineboth (*Centralblatt f. Chirurgie*; *Brooklyn Med Journal*).

Riedel performed nephrorrhaphy in eight patients. As a result of this experience it was found that sutures made to include the renal structure and surrounding adipose tissue were insufficient for the purpose, and suture of the fibrous capsule alone by means of catgut was subsequently substituted. This, however, only permits of fastening of the lower half of the organ, or that portion which projects below the twelfth rib, and fixation of the upper half must be accomplished by some other method. This is done by splitting the fibrous capsule for its entire length at the posterior edge of the kidney, loosening it from its attachments to the latter as far as possible, and tamponing the space thus formed by means of a strip of iodoform-gauze. The gauze is pushed as high up as possible between the exposed renal surface and the diaphragm. The remainder of the wound is also tamponed with iodoform gauze. The strip of gauze is allowed to remain for several weeks, and upon its removal two broad granulating surfaces are to be found lying opposite to each other. These become attached in the further progress of the healing, and the kidney thus becomes secured along its whole posterior border.

The results thus far obtained are sufficiently encouraging to warrant further trial of the method.

Clinical and Experimental Studies in Hydronephrosis.—Tuffier, (*Ann. des Malad. des Org. Genito urin.*; *Brooklyn Med. Journal*).

The etiology of hydronephrosis still remains more obscure than that of any other surgical renal affection. The present paper is based upon a number of experiments upon animals, as well as upon twelve personal operations in cases of intermittent hydronephrosis and forty-five nephropexies for movable kidney. The origin of hydronephrosis, and particularly of the intermittent variety of the affection due to abnormal mobility of the kidney, is discussed. In floating kidney, flexion of the ureter may result in obstruction to the flow of urine to the bladder, distension of the pelvis of the kidney and consequent hydronephrosis. Reposition of the organ, as, for instance, when the patient assumes the recumbent position, removes the flexion, the kidney moving upward toward the lumbar region. As a further clinical fact it is sometimes observed that, when the pelvis of the kidney is greatly distended the obstacle to evacuation is suddenly overcome and the hydronephrosis disappears, gradually reappearing until the former condition of tension is present.

T. pursued exactly this mechanism of origin of intermittent hydronephrosis in animals. By artificial fixation of the kidney in a position to produce a curve of the ureter and consequent distension of the pelvis, the renal function continuing, the curve is converted into a decided flexion, and hydronephrosis occurs. The latter may be overcome at will by simply replacing the displaced kidney. If the latter has become fixed in its abnormal position the flexion and hydronephrosis can only be overcome by strong and steady pressure of the fluid in the renal pelvis.

Fixation of the floating kidney is advocated in cases of hydronephrosis due to this cause.

Further Communication on the Treatment of Surgical Tuberculosis by Passive Hyperemia.—Bier communicated to the "Twenty-third Congress der Deutschen Gesellschaft fur Chirurgie zu Berlin" his latest observations on the treatment of surgical tuberculosis by passive hyperemia (*Archiv f. Klin. Chirurgie; Amer. Jour. of the Med. Sciences*). The observations now include one hundred and eighty tuberculous lesions occurring on one hundred and fifty-five individuals. In a case of sarcoma in the neighborhood of the knee, which was at first supposed to be tubercular osteitis, the tumor increased rapidly in size under this treatment. A case of lupus on the arm and leg of a child, supposed to be of tuberculous origin, became aggravated under the influence of passive hyperemia. The administration of potassium iodide caused rapid healing of the lesions, which led to the diagnosis of specific lupus. This is confirmatory of former observations that syphilitic lesions are made worse by passive hyperemia.

Increased tendon reflexes decrease or disappear under passive hyperemia. To this effect Bier ascribes the rapid improvement of contractions and the increased movability in inflamed joints after this treatment. Inflammations dependent upon staphylococci and streptococcus are unfavorably influenced by the artificial hyperemia.

The result of this treatment on tuberculous joints is much more favorable if sinuses have not formed than if they already exist. Bier has observed in the former cases relief of pain, return of motion and function, and the granulations cicatrize. The effect on lesions which are discharging freely is, first, to increase the discharge, and, later, to cause its disappearance. Some of the

cases are cured, and others result in cold abscesses, which are to be treated in the usual manner.

The treatment of tuberculosis of the bones does not differ from that applicable to the joints. All of the cases treated had sinuses. In some the sinuses healed, but if they persisted even after the injection of Villate's solution, operation is proceeded with much sooner than in the cases affecting joints, as in the former the function of the member is not thereby interfered with, as is the case after excision of a joint. In tuberculous disease of the metacarpus and metatarsus, the author reports unsatisfactory results; in all other cases favorable results.

In tuberculosis of the sheaths of tendons, the behavior to passive hyperemia is about the same as in the case of joint disease. Some of the cases are cured, and others result in the formation of cold abscesses.

Five cases of tuberculosis of the testicle were treated by Bier's method. One case died of general tuberculosis, and the others were much benefited.

Experiments were made on tuberculosis of the glands, without any practical result, owing to the difficulty of applying this treatment to the usual location of the glands.

In tuberculosis of the skin the results have been the most unfavorable.

In conclusion, Bier states that his method is not intended to displace recognized conservative methods of treatment, nor will it do away with excisions and amputations; but, in his opinion, it is one of the best of the conservative measures so far employed.

OBSTETRICS AND GYNECOLOGY.

The Dangers of Curetting the Uterus.—The *Union Medicale* publishes an account of a discussion recently held at a meeting of the Societe de Gynecologie et d'Obstetrique, of Berlin, at which several surgeons presented interesting facts regarding the dangers of curetting, showing how, in certain conditions, this simple operation might be a dangerous one. It had been so abused, it was said, that for several years a reaction had been going on, and distinguished physicians had rejected it more and more and replaced it with uterine dressings. Curetting was an excellent operation, but it should be indicated, then it should be well done, and, finally, the subsequent care should be attended with the greatest antiseptic precautions. Many maintained that, after uterine dilation, with intra-uterine dressings, the result was the same. This was very evident, it was said, but in certain cases this method was more tedious. When fungous growths formed a thick layer, it was more rational to destroy them with a sharp instrument and to treat the uterine cavity like an ordinary wound.

Curetting entailed several dangers, the principal of which was perforation of the uterus; but here again one must distinguish carefully. This perforation was easily done in certain conditions, and it was very rare in commoner cases. If it was a case of metritis the mucous membrane of the uterus was especially affected. The uterine tissue was resistant, offering a solid level on which the curette might be rested, and by proceeding carefully and gently, the uterine wall was not likely to be injured. This was not so when it was a case of abortion, and the uterus was incompletely emptied, so that retained portions of placenta called for intervention. Here the tissues were greatly changed and the thickness of the uterine wall was very much diminished. The uterine cavity was of irregular dimensions, and when diseased parts had to be detached from the healthy parts with the curette, one was apt although proceeding with caution, to make a solution of continuity and to penetrate into the peritoneal cavity. Instances of this kind were principally cited, but what constituted the peculiarity of these observations was that the rent was so large that an intestinal coil had penetrated the uterine cavity.

In a case cited by Alberti, the patient, thirty-two years old, had been attacked with metrorrhagia after a period of menstrual suppression. There was a fetid bloody flow and the neck of the uterus was dilated. The physician, with the idea that he had to deal with an abortion with retention of the membranes, performed curetting and introduced a forceps into the uterus in order to remove a piece of membrane which remained. But, instead of the membrane, he brought an intestinal coil down to the vulva. At once he applied a tampon of iodoform gauze in the vagina, and had the patient taken to a hospital, where Alberti performed laparotomy immediately. An intestinal coil, seventeen centimetres long, passing through a rent in the uterus, was so wedged in the os internum that it could not be extricated until section of the neck had been done. The coil was replaced, the uterus was closed with four Lembert's sutures, so attenuated was it, and the woman recovered.

Other cases were cited which demonstrated that these operations should not be done carelessly, but should be performed by an experienced physician. It was well known that the uterus in the condition of involution was easily ruptured; but these accidents could not cast discredit on curetting, which, in these conditions, should be practiced as a preventive of the terrible results of infection from retained portions of placenta.—*New York Medical Journal.*

Leucorrhea, Vaginitis.

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Aquæ, - - - - - - - - - - Oj.
M.
Sic. Use as a vaginal injection.

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NOTES AND ITEMS

The Antitoxin Treatment of Diphtheria.—The remarkable curative powers of the antitoxin appear to be established here and all over the world. It is a pity that so much credit has been given to M. Roux in Paris and in world-wide telegrams for merely applying a remedy which is of German origin; the hysterical excitement manifested in France, from the President downwards, does more credit to the heart than to the head. A more ridiculous and misplaced outburst of false Chauvinisms has rarely been witnessed, even among our charming and able but excitable neighbors. Sir Joseph Lister's appeal is somewhat puzzling, for only a fortnight ago he stopped an appeal of the kind with the statement that the cost of treatment per case did not exceed 9d. to 1s. 6d., which is less than the ordinary cost of existing medication.—*Brit. Med. Jour.*

Morphinomania in the Medical Profession.—Dr. Jules Rochard, in the *Union Medicale*, draws a gloomy picture of the increase of the morphine habit in France and elsewhere. The habit, he finds, becomes incurable at the end of six months of indulgence. The fair sex and the doctors are, in his opinion, the most deeply addicted to morhine. He draws an unpleasant comparison between the behavior of each kind of delinquent. Women, he says, delight in declaring how they indulge in this vice, and show ornamental hypodermic syringes to their friends. Dr. Notet states that a lady having broken the needle of her syringe in a remote country village, wounded her skin with scissors and thrust the stump of the needle into the wound, injecting herself in this manner till a new syringe arrived from Paris. Men, Dr. Rochard declares, and especially medical men, the bulk of male morphine injectors, take the greatest pains to hide their vice. Hrnce the precise number cannot be estimated. He believes, however, that doctors and persons associated with them form nearly half the total of men addicted to morphine. —*Medical Record.*

Breakfast for Chlorotic Girls.—Dr. Carl Von Noorden, in the *International Medical Magazine*, speaking of the dietetic treatment of chlorosis says: "Most chlorotic girls feel weakest and worn out during the hours of the forenoon, and incapable of any proper kind of work. This condition is uncomfortable, and directly harmful from the educational point of view. The best remedy is the English fashion of a good hearty meal at the beginning of the day. Chlorotic girls are advised to drink half a litre of milk of the best quality, while still in bed, and to do it very slowly, taking fifteen minutes to drink the quantity prescribed. Half an hour later they should rise and be rubbed with a dry, rough, woollen towel. Then comes the breakfast, consisting of a small cup of tea, one or two slices of buttered toast and plenty of meat. Two hours and a half later some bread and butter is to be eaten, together with two eggs, this to be followed by a quarter of a litre of milk. A glass of sherry is now permissable, if special reasons warrant it. This morning regulation of diet makes the forenoon hours quite comfortable. Fixed rules for other meals are of less importance."

Death-Rates and Race.—I will not weary you with further details of figures, which those of you who are specially interested in the subject will find in the reports of the Vital Statistics of the Eleventh United States Census, but will merely say that the corresponding data from Boston, Philadelphia, Baltimore, Washington, and from the New England States as a whole, taken with those from New York State and New York City, and with those derived from a special investigation of over 10,000 Jewish families, including over 50,000 persons, lead to the following conclusions as being probable for the United States:

1. The colored race is shorter lived than the white, and has a very high infantile death rate; it is specially liable to tuberculosis and pneumonia, and less liable than the white race to malaria, yellow fever and cancer.

2. The Irish race has a rather low death rate among its young children, but a very high one among adults, due to a considerable extent to the effects of tuberculosis, pneumonia and alcoholism.

3. The Germans appear to be particularly liable to disorders of the digestive organs and to cancer.

4. The Jews have a low death-rate and a more than average longevity; they are less affected than other races by consumption, pneumonia and alcoholism, but are especially liable to diabetes, locomotor ataxy, and certain other diseases of the nervous system.—Dr. J. S. Billings, in *Medical Record.*

Anxiety as a Cause of Granular Kidney.—It is interesting, in relation to the ailment of the Czar, to recall a paper read by Professor Clifford Allbutt at the annual meeting of the British Medical Association at Sheffield in 1876. The subject he took up was "Mental Anxiety as a Cause of Granular Kidney," and by an analysis of his casebooks he showed what an abnormally large proportion of the patients showing symptoms of granular kidney had been subject to the depressing influence of prolonged anxiety. He says: "During the last two years I find I have made notes of thirty-five cases of granular kidney occurring in private practice, and I find a marked history of mental distress or care, or both, in twenty-four of them." This is a large proportion even if we admit that the pushing inhabitants of West Yorkshire worry abnormally concerning this world's goods. Several illustrative cases are given, and one especially in which as a consequence of an unfortunate investment, a man, in a good position, for three years "went to bed night by night ignorant whether he might not be gradually drained of his all." Dickinson

although not so positive. Prolonged mental disturbance, anxiety, or grief as a cause of granular kidney is, he says, "perhaps problematical; the mode of its operation is not obvious, but must be surmised as through the nervous system. A lowering of nervous force is to be recognised at least as predisposing to every form of albuminuria. I have seen so many instances in which granular degeneration has been immediately sequent upon trouble that, in the abscence of other causes, I am fain to conclude that mental conditions are sometimes concerned in its production."—*Brit. Med. Jour.*

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Purpura Hemorrhagica, Iodine Treatment.

BY TEDBAR HOPKIN, F.R.C.V.S., MANCHESTER.

SUBJECT.—A black gelding 4 years old, after recovering from influenza, was on June 9 of present year put to a fairly severe Saturday afternoon's work before being in a fit condition. On Sunday it was noticed that the limbs were swollen and there was more or less stiffness supposed to be due to debility. Our attendance was not requested until Thursday the 14th, or five days after first noticed swelling.

SYMPTOMS —Edematous swelling of the extremities and head, sero-sanguineous discharge from nostrils; pulse 75, temperature 105°.

DIAGNOSIS.—Purpura Hemorrhagica.

TREATMENT.—Turpentine in eggs and milk, pot. chlor. and tr. ferri perchlor.

Friday 15th. Symptoms aggravated, chest and abdomen enormously swollen. Performed tracheotomy and adopted the treatment suggested by Prof. Dieckerhoff (Berlin Veterinary School). A translation of a report of this treatment by Mr. J. A. W. Dollar appeared in *The Veterinary Record* for May 26, 1894. It consists of intra-tracheal injection of a solution made up of

℞	Iodine,	1 part.
	Iodide of Potassium,	2 parts.
	Water,	100 parts.

"3 to 9 fluid drachms of this solution are slowly injected into the lumen of the trachea twice a day." We injected through the tube ʒiv. of this solution, the report was that it produced no inconvenience.

Saturday 16th. Hind legs and head greatly swollen, with serous oozing through the skin and dropping from fetlock pads, also discharge from nostrils and profuse serous exudate from opening in trachea. Injected ʒiij. of solution through opening in trachea.

Sunday 17th. Marked improvement, animal eating fairly well since swelling of lips reduced. Repeated injection of ʒij. of solution.

Monday 18th. In consequence of irritation caused by intra tracheal injection, gave increased quantity ʒiv. as an injection per rectum (our doses were the smallest recommended and only given once a day). Animal taking gruel and green food.

Tuesday 19th. Further improvement, repeated injection per rectum.

Wednesday 20th. Swelling less, gave ball

℞	Iodi,	ʒss.
	Pot. Iodi,	ʒj.

Thursday 21st. Injection of ʒiv. Diecherhoff's solution per rectum. Horse eating well and improving.

Friday 22nd. No further medicinal treatment. Made an excellent and rapid recovery.

Mr. Dollar asks for particulars of cases. This makes one to the number, and I shall certainly give the treatment further trial as opportunity occurs. It in this case cut short the attack, and we were not troubled with more than one change of swelling. All accustomed to treating purpura know how often hopes raised by swellings disappearing are ruthlessly expelled by their re-appearing in increased size in another part of the body. It was not by any means a mild attack and yet recovered without any sloughing of the skin.

The doses given were small in comparison to what is suggested, and although the first per trachea may cause no marked distress we soon reduced ours, as we thought of necessity, and gave per rectum and mouth.

With proper care and judicious administering we have in iodine and iodide of potassium exceedingly valuable drugs. I have found that pleurisy and pneumonia both are greatly benefited by their use after the acute febrile stages have passed.

A Tedious Case of Granular Dermatitis.—Good Results from Pepsin when other Treatment Failed.

On July 25, 1893, there was admitted to the hospital a chestnut gelding with a large ulcer on near hip. The history of the case was that for some time past the horse had a great desire to rub himself, and had so irritated the part that on the point of the hip a surface as large as a man's hand was entirely raw; looked angry and unhealthy.

We dressed the wound with a solution of creolin after removing all sloughing skin, cauterized it lightly with

silver nitrate and replaced the light blanket first putting an oakum pad over the wound. It progressed very well and was closing nicely when on August 13, the horse broke his halter and bit the wound severely, putting it quite back to where we started. We then tied the animal securely in a large box-stall, discontinued the blanket and oakum pad and used a tonic powder of zinc oxide, faller's earth and carbolic acid. It granulated slowly for a few weeks and then assumed a very indolent character.

On October 31, we practiced skin grafting, placing 36 little islands of skin on the ulcer and keeping the parts sprayed with salt solution several times a day.

We placed the animal in slings for support and to prevent his rubbing the wound again. The grafts remained firm for four days when about half of them came off. Gradually they all loosened and came away but the wound looked in better condition.

We then used a collodion dressing beginning December 27. The wound made good progress with this treatment until January 13, when the horse broke the slings during the night and lacerated the wound in an ugly manner.

We were pretty thoroughly disgusted as can well be imagined, but having gone this far we decided to see it through. We replaced the slings and kept him in them all the time except about thirty minutes a day, when he was taken out to be exercised. We next tried quinine sulphate and got a very rosy healthy wound with it, but at the end of a week it did not improve as well as under collodion, so we returned to that treatment.

One day when in conversation with Prof. Roscoe Bell, of Brooklyn, we mentioned our case, spoke of how many drugs we had tried and how discouraging treatment seemed to be. He said that he had obtained good results with pepsin and suggested that we try it.

Beginning the pepsin treatment on January 29, we could see improvement in three days, and a week later the wound was cicatrizing nicely. It continued to granulate rapidly and steadily until March 10, when it was perfectly healed and covered by solid cicatricial tissue. —Albert Shelden, D.V.S, House-Surgeon to the A. V. Hospital, in *Amer. Vet. Rev.*

Disturbed Locomotion (Ataxia) in a Horse.

A Hungarian saddle horse, which was very susceptible to attacks of colic, was brought to the writer for treatment for this disease.

The rider experienced difficulty in keeping his seat, as the animal kicked continuously. In the stable the horse stood with the back arched and the hind legs drawn under the body. When an effort was made to have it "stand over," the horse moved with great difficulty, took short steps and flexed the joints as little as possible. The colicky symptoms disappeared in the course of a few days and the general condition of the animal improved. When the horse walked the legs were strongly flexed at the hocks, drawn forward with a jerk, held in the air for an instant and then dropped heavily to the ground. A trembling of the hind quarter accompanied this movement. In the weeks which followed, these symptoms extended to the fore limbs, so that in walking all of the joints would be strongly flexed. At this stage the hind legs would not be brought forward in a straight line, but followed a zig zag course. When the horse's head was covered it could be made to move only by great urging and its progress was very unstable.

Continued exercise helped the animal a little, but as it was subject to frequent relapses the owner sold it.

Magnin thinks that this was a case of locomotor ataxia, due to a lesion of the spinal cord, but the symptoms were not so characteristically developed as in man. —Magnin, in *Recuel de Med. Vet.; Berl. Thierarz. Woch.*

Modifying the Growth of Bones.

M. Ollier, of the Hotel-Dieu, Lyons, France, according to a translation by Dr. B. Merrill Ricketts, of Cinnati, O., has discovered a method of modifying the length of bones. By experiments upon dogs and other animals, Dr. Ollier has shown that irritation of the shaft of a long bone will cause the bone to increase in length, while irritation of the epiphysis has an opposite effect. Dr. Ollier suggests that by these means, deformities resulting from rickets, and possibly other causes, may be, to a considerable degree, remedied. The technique of the method remains yet to be developed.—*Bacteriological World.*

Anthelmintics.

Tartar emetic, five drachms daily in the drinking water, still has the preference as an anthelmintic in the horse. By many, arsenious acid in doses of thirty to forty grains is preferred as a safe and efficient anthelmintic remedy. Areca nut, male fern and kamala are the best anti tenia in the dog. The first is administered in pill form in ten grain doses mixed with cacao butter and yellow wax; the oleoresin of male fern is given in gelatine capsules in doses of 8 to 10 minims. (℞ Sem. Arecæ 15 gm. Butyr. Cacao, Ceræ flav., q. s. Fiat bol. No. xx.).

Kamala, on account of its easy administration, its non-toxic effects and purgative action, which avoids the necessity of following it with a cathartic, is the most efficient remedy against the tape worm. Koso and pomegranate rind are seldom prescribed. As a remedy against lumbricoid worms in the dog, santonin is, according to experience, more efficient when prescribed in conjunction with castor oil. It will thus pass through the stomach without being absorbed, and the mixture is at the same time laxative. ℞ Santonini, .3 gm., Ol. Ricini, 50 gm. M. Teaspoonful three times daily for a small dog; tablespoonful for a large dog.—*Monatshefte f. Pratische Thierheilkunde.*

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ORIGINAL ARTICLES

Symphysiotomy.

BY L. CH. BOISLINIERE, M.D., LL D.,

Emeritus Professor of Obstetrics St. Louis Medical College.

Read before the St. Louis Obstetrical and Gynecological Society, September, 1894.

Symphysiotomy is a section of the pubic symphysis, with the object of producing a widening of the iliac bones and thus increasing the dimensions of a pelvis too narrow for the passage of a child at full term.

The reader should be reminded in a few words of the anatomy of the articulations of the pubic bones, in order to understand the rationale of this operation. According to Quain, the "pubic articulation (symphysis pubis) is formed by the conjunction of the pubic bones in the median line anteriorly, being effected by an elongated piece of fibro-cartilage interposed between their surfaces and connected to each other. It consists of concentric lamellæ,is thicker anteriorly than posterior ly and frequently projects beyond the level of the bones in the latter direction. Each pubic bone has its own plate of fibro cartilage. These plates are connected with fibers passing transversely from one to the other at the fore part, as well as at the upper and lower border. The union between the bones is strengthened, first, by an *anterior pubic ligament* which consists of irregular fibers, passing obliquely across from one bone to the other, and decussating on the anterior surface of the fibro cartilage; the fibers are intermixed with those of the aponeuroses of the pyramidalis and external oblique muscles of the abdomen; second, the *sub-pubic ligament* (liga mentum triangulare, arcuatum) thick and triangular, which is placed beneath the symphysis, its sides being attached to the rami of the pubis, its base free and slightly concave, directed downward and backward to the perineal space; third, by some indistinct fibers which are situated on the posterior surface of the articulation; and others placed on its upper border."

Moreover, the articulations of the pelvis during gestation become softer and relaxed on account of the secretion from the synovial membranes lining their surfaces and symphysiotomy is thereby greatly facilitated.

The pubic bones have even been seen in some rare instances widely separated after a severe labor or a difficult forceps operation and this separation on post-mortem sections has been found to amount to 2½ inches. This separation during labor had been observed by the ancients, Hippocrates and by many modern writers; it takes place in women from 18 to 35 years old as stated by Lenoir, Duncan and several others.

The knowledge of these facts probably inspired the inventive genius of Sigault with the idea of dividing the pubic symphysis on the living, in order to produce its separation, thereby enlarging the faulty diameters of the pelvis, when contracted, so as to allow of the passage of a living child otherwise rendered impossible.

Jean Rene Sigault, then a medical student, imbued with this idea, began to investigate its feasibility; which he did by examining the pelves of several women who had died in labor. In 1777 he performed for the first time symphysiotomy on a living woman, who had an antero posterior diameter of 2½ inches, and also an asymmetrical pelvis. The mother and child survived. This success created a wide-spread excitement among the accoucheurs of Europe; and the operator was rewarded with great praises and honors by the Faculty of Medicine. But, unfortunately, succeeding cases were not followed by favorable results; and the operation was soon severely condemned, and had in the successive hundred years almost entirely ceased to be performed. From 1777 to 1858, 86 operations were reported, giving the mortality of 33.72 per cent of the mothers and 60.5 per cent of the children. Before 1858 Churchill reports 78 cases with 26 deaths of the mother. In 1866 there was a marked revival of the operation which was performed by Professors Morisani and Novi, of Naples 76 times from 1866 to 1888 with a mortality to the mother of 23.6 per cent and an infant mortality of 22.4 per cent. These results were not encouraging because the maternal mortality was greater than that furnished by the statistics of the Cesarean section and those of embryotomy or the high application of the forceps and version. But the statistics of Morisani this year show a maternal mortality of only 3.5 per cent and an infantile mortality of only 5.5 per cent in 55 operations. A better result has been shown by Dr. Spinelli, a pupil of Morisani, who, in 1890 to 1893, saved 24 women out of 24 cases and 20 children. A still bet

brought to the hospital infected with septicemia caused through many touches practiced by an unclean midwife. Zweifel, a German, has operated 14 times with 14 maternal recoveries and 12 living children. Garrigues says that the operation has been performed 26 times in the United States, with a mortality to the mother of 15.39 per cent and of the children of 30.77 per cent, this inferior result being possibly due to a comparative neglect of that very strict antisepsis, so carefully observed in Germany, France and Italy, from where such brilliant successes have been reported within the last two years. However a marked improvement has taken place in America where Prof. Barton C. Hirst has lately successfully performed symphysiotomy under very difficult circumstances in three cases, saving the mother and infants. Broomall, Noble, of Philadelphia; Michael, of Baltimore; Springle, of Montreal; M. Kennan, of Paris, Ill.; Duff, of Pittsburg; Lusk, Coe and Grandin, of New York, and several others have performed the operation with very fair results to mothers and children. Prof. Garrigues, of New York, has performed it once with equal success and Prof. D. Longaker successfully three times. Jewett, of Brooklyn, being the first to perform it. Since 1892, the operation has been performed nearly two hundred times in Europe and America and twice on several women. Rosenberg reports thirty-seven cases of repeated symphysiotomy including five times on the same woman and three times on another.

Prof. Karl Sandberg, of Chicago, in an excellent resume of the subject, expresses his conviction, which is also that of the modern advanced obstetricians: "that symphysiotomy is naturally destined to assume a position between high forceps delivery above the superior strait, version in much contracted pelves, and Cesarean section under certain circumstances and that it is a direct competitor with craniotomy."

Limitations of Symphsiotomy.—A true conjugate below 2½ inches and as the bi-parietal diameter of a child at full term is 3¾ inches, and the increase to be depended upon the true conjugate, after a two inch separation of the pubic bones, amounts to 1¼ inch, making it a conjugate of 2¾ to 3 inches, sufficient room has been gained for the passage of the child, otherwise impossible with a conjugate diameter of only 2 inches to 2½ inches, which is the minimum limit for the operation, according to Morisani, Zweifel and Leopold. Garrigues says that "the upper limit for symphysiotomy ought, in a flat pelvis, to be placed at a true conjugate of 3½ inches; above which, forceps or version offers the proper means of delivery; and that if the pelvis is generally contracted the limit must be extended to 4 inches." Before resorting to the operation, accurate pelvimetry should be made. This is an important procedure although sometimes unsatisfactory until it has been learned by frequent practice in every case of labor. Unfortunately pelvimetry is not sufficiently taught in medical schools.

uring from 3 to 3¾ inches, the forceps or version should be attempted; if these fail symphysiotomy should be performed. It should be done after the induction of premature labor, if the head cannot be borne. Under two inches, Cesarean section should absolutely be resorted to if the child is living; if dead, perform craniotomy. Symphysiotomy should never be performed for a dead child. The principal indications will therefore be a narrow, flat or generally contracted pelvis, also in some faulty presentations or positions of the child's head, such as an occipito-posterior position of the occiput, or face with the chin posterior and impacted rotation having failed (Michael), also in obstructive tumors of the pelvis. In the impacted chin posterior, Prof. J. M. Scott, of St. Louis, advises in preference the Cesarean operation, if the child is living, and if not living, craniotomy.

A necessary condition for symphysiotomy is a dilated or dilatable cervix.

Effects of the Operation.—Zweifel says that when the head passes through the narrow part of the pelvis, the pubic bones separate from 6 to 7 centimeters (2 to 2½ inches). Garrigues: the distance between the middle of the promontory and the end of the pubic bone increases 14 millimeters, and the presenting part entering into the gap between the divided bones, a further 6 to 8 millimeters is gained; making in all 20 to 22 millimeters. There is also an increased vertical mobility, as described by Duncan, and also the anterior pelvic ring sinks down and this helps to make the conjugate longer.

Dangers of Symphysiotomy.—Injuries to the soft parts, urethra, vagina, bladder, etc., have occurred and still occur in a number of cases and prove a serious complication. It is probably more reasonable to attribute these injuries to the stretching of the parts between the separated bones, than to any injury from the forceps or the fetus (Karl Sandberg). The bladder may likewise be caught in approximating the pubic bones after the operation, if care be not taken to push it back in closing the wound. In order to avoid the injuries due to tension it is advisable in forceps extractions to pull well back, and rather to risk a tear of the perineum, or performance of episiotomy, than to expose the inner organs in front (Garrigues). To avoid these injuries, Zweifel recommends to spread the legs as little as possible, also to await spontaneous delivery, according to the advice of Morisani, who uses the forceps in only one-fourth of his cases, whilst Garrigues and Pinard favor its use in almost every case. The injuries should be immediately repaired with silk ligatures. The vesico-vaginal fistula heals as a rule spontaneously. As to injuries to the sacro-iliac joints, they are seldom so serious as to cause permanent lameness. A proper tight bandaging will prevent the mischief.

The Operation.

There are two methods—the *Subcutaneous or Italian Method* and the *Open Method*, the latter being the one generally adopted.

The Subcutaneous Method.—Incision in the median line 3 centimeters, 1 inch long extending to a point 1 to 2 centimeters (1½ inch) above the symphysis. Small transverse incisions are made to detach the musculi pyramidales. The left index finger is then introduced behind the symphysis pubis and down to its lower end, and a Galbiatti falcetta or a strong concave, probe-pointed bistoury is slid down on the finger until its probe-pointed end can be felt under the pubic arch; the symphysis is next divided from below upwards and from within outwards.

The center of the symphysis can be ascertained by finding the spines of the pubic bones. The cartilage is generally prominent. The joint is not always in the median line, but frequently is to one side, generally the left, and often oblique; most commonly from the right side to the left.

The subcutaneous method is simple and gives rise to less hemorrhage than the open method; the wound can be kept perfectly aseptic and the hemorrhage controlled by tampons. This method is preferred by Prof. Sandberg, and has given most brilliant results in the hands of Morisani.

The Open Method is adopted by Pinard and by a great many operators in Europe and America, because it allows a full view of the field of operation, and enables the operator to find the best place for dividing the symphysis; it also enables him to see the bleeding points, and to ligature, suture, or clamp them. But the wound extending to the vulvar orifice is exposed to the lochial discharge and urine, and is very difficult to keep aseptic (Sandberg). It is claimed by some that packing is the only reliable hemostatic for the sometimes profuse hemorrhage caused by this method.

Prognosis.—Varnier has in 124 modern operations found a maternal mortality of 9 per cent; but in a large proportion of fatal cases death was not attributable to the operation alone. With some operators the prognosis is far better, as shown by the results obtained by Garrigues, Pinard, Zweifel, and lately by Morisani and Spinelli, his assistant. Properly performed, and within the proper limits, Garrigues, Pinard, Zweifel, Morisani, Sandberg and all the modern operators think the prognosis for the mother is very good.

But, for the children, the prognosis is not so favorable. Varnier's statistics show an infantile mortality of 22.7 from asphyxia, fractured cranium, etc. This great mortality is often due to attempts at forceps or version, before symphysiotomy. Moreover, the operation, usually so simple, is occasionally difficult and complicated and might require craniotomy at last, if the child be dead, or the Cesarean operation if the child be living.

"Craniotomy on a living child should never be performed since we possess less destructive means at command." (Garrigues). "Embryotomy has ceased to be a justifiable procedure on a living child."(Thos.D Dunn).

Pinard prefers symphysiotomy to the *induction of premature labor* for the sake of the children, whose mortality is in the latter operation 43% (an exaggerated statement); although the maternal and infantile mortality are each only 5 per cent in symphysiotomy. But as the induction of premature labor is a much easier operation and can be performed by almost any one, it should always be first attempted, even if it be subsequently necessary to perform symphysiotomy on account of the very large size of the child's head. If this be of an unusual size, symphysiotomy would be indicated, even with a normal pelvis. (Garrigues).

Symphysiotomy, when there is a relative indication, should be preferred to Cesarean section, or to the forceps above the superior strait, after version has failed, as being less formidable and as more favorable to the mother and child. In 114 applications of the forceps at the superior strait by Pinard before he had adopted symphysiotomy, 35 children were born dead or wounded and in 234 cases of version for contracted pelvis, in the practice of Leopold in Dresden and in that of Braun in Vienna, the mortality was 32.1 per cent.

When there is an *absolute* indication, Cesarean section becomes the only alternative if the child is living; if dead, craniotomy should be performed, as above stated. This *absolute* indication for the Cesarean operation is a conjugate below 2½ inches.

Prof. Pinard's Technique.

(Condensed from an article by Dr. Wallich in *Journal de Medicine*, September, 1893).

At the end of 1891, Dr. Spinelli, an assistant to Prof. Morisani, reported 24 cases of symphysiotomy without the death of a single woman. He came to Paris and presented his results to Pinard. It was for the latter a true revelation, and, with the assistance of Prof. Farabeuf and Dr. Varnier, he studied the operation upon the cadaver, ascertained exactly the enlargement obtained by this or that widening of pelves of different dimensions, established the technique of the operation, and solemnly declared in a lecture delivered on December 7, 1893, that in future he would no longer craniotomize a living child. In February, 1892, he performed a symphysiotomy for the first time in France since its revival in that country.

Prof. Farabeuf, in a communication in the *Annales de Gynecologie*, Paris, December, 1892, as a result of a thorough examination of the pubic symphysis, came to the conclusion that by incising the symphysis directly in front from above downward, there is no danger of wounding the internal organs, clitoris, urethra, etc., and that, as for the bladder, it can easily be protected by a finger introduced behind the symphysis. He proves that by a stretching of the iliac bones owing to the play of the sacro iliac articulation, the dimensions of the pelvis are increased. The antero-posterior diameter of the superior strait, for example, being 2½ inches (8

centimeters) before the stretching of the iliac bones, measures 3¾ inches (10 centimeters) after a separation of 2 inches (6 centimeters) has been produced between the pubic bones.

As a result of his experiments Prof. Farabeuf concludes that "the lengthening of the antero-posterior diameter is not uniformly proportionate to the widening of the separated pubis; this widening becomes accelerated according to a geometrical progression for every centimeter added to the first. For instance, if a pubic separation of 3 centimeters (1 inch) lengthens the practical antero posterior diameter 8 millimeters, a widening of 3 more centimeters lengthens it 12 millimeters additional, and not 8 millimeters. This increase is accelerated in proportion as the pelvis is smaller." Farabeuf's mensurations prove that it is only in pelves where the antero-posterior diameter of the superior strait measures less than 2½ inches that it is to be feared that the maximum separation of the pubis will not allow the passage of a child whose bi parietal diameter is 3¾ inches (9.5 centimeters). Above the narrowing of 7 centimeters (2¼ inches) the widening between the pubic bones will, together with the lengthening of 1¼ inch of the antero-posterior diameter gained by this widening, be sufficient for the passage of even a large child.

Pinard's Latest Method of Operating.

This is purely the *open method*, as will be seen.

The woman is placed across the bed, in the dorsal decubitus, the thighs abducted and flexed upon the pelvis by two assistants. The pubic region is washed with soap and water, then with ether, and finally with a $^1/_{2000}$ solution of bichloride of mercury. The adjacent parts, groins, vulva and anus, as well as the lower part of the abdomen, are also carefully washed. Afterwards the bladder is emptied with a catheter, and an antiseptic injection given in the vagina. The operation comprises three stages:

1. Incision of the integuments.
2. Incision of the symphysis and of the sub pubic ligament.
3. Stretching of the iliac bones.

1. Incision of the Integuments.—The length of the incision cannot be fixed in advance, as the height of the symphysis varies with every individual. The incision must be vertical and median, between the pubic spines; beginning on a level with and a little above the superior border of the symphysis and descending to its inferior border. The incision should deviate a little in the neighborhood of the clitoris without encroaching on the superior part of the vulva. Thus the integuments are incised down to the cartilage without stopping to twist the small bleeding arteries. The fibro-cartilage on a level with the anterior face and the superior border of the symphysis is freed with scissors on the finger as guide; then two small incisions are made transversely, starting from the median line, and just touching the superior border of the symphysis, so as to cut the aponeurotic tissues, in order to make room for the introduction of the index finger along the posterior face of the symphysis. This finger easily feels the prominence of the fibro cartilage of the symphysis and thus effectually protects the organs posterior to the symphysis, and then begins the second stage.

2. Section of the Symphysis.—A straight bistoury directed to the bottom of the wound can reach only the bone which resists, or the cartilage which is easily cut from before backwards and from above downwards. After beginning the section with a straight, a probe-pointed bistoury or *Galbiati* knife is to be substituted. At the moment of making the section of the sub-pubic ligament an assistant places a metallic catheter or sound in the bladder, draws down the urethra, and the section is continued slowly, prudently, and by short strokes so long as the instrument is heard to creak. Little by little the resistance gives way and at once, with a slight jerk, the illiac bones yield and the pubic symphysis is severed in its whole length. Then the third stage must be proceeded with.

3. Widening or Stretching of the Iliac Bones.—The assistants, by a movement of abduction of the thighs, performed slowly and progressively, produce this widening. The surfaces of section of the symphysis separate from one another, to the extent of enabling one, two, or three fingers to be placed between them.

We know that, without danger for the sacro iliac articulations, their widening may be produced as far as 2¾ inches (7 centimeters). When this widening of the sacro-iliac articulation is judged sufficient, the assistants should neither exaggerate nor diminish it without the order of the operator. The wound is tamponed either with a sponge, antiseptic cotton or iodoform gauze; then the child is extracted.

Extraction of the Child.—In case of delay in its birth, the forceps are applied according to the classical rules, the blades being placed on the parieto-malar regions of the flexed head; traction is made, the head descends easily, until it reaches the perineum. No force should be used; if there is some resistance, the separation of the pubis should be increased within safe limits.

As the head has descended transversely in the excavation, it must be made to rotate, so that it can easily go through the inferior osseous and muscular straits.

Here, a very important suggestion is made by Dr Varnier, in order to save the anterior region of the vagina from the lacerations which happen so frequently in the hands of the operators who have not had recourse to this suggestion. He says: "When the iliac bones are widened, the vulva and soft parts no longer present an orifice longitudinally from above downwards, and from before backward, but an orifice drawn transversely, with a transversal axis, the superior border of which is no longer supported by the separated osseous parts. Therefore, the head which has just been made to rotate, will present its greatest diameters directed longitudinally to this transversely drawn orifice.

"If traction is made, the vulvar orifice and the soft

parts yield in the unsupported parts corresponding to the gap between the ends of the separated pubic bones; hence, the lacerations at the anterior region of the vagina."

In order to avoid these injuries, the method proposed by Dr. Varnier is of the utmost simplicity; when the head has perfected its rotation, the assistants must bring the thighs together, the widening of the iliac bones disappears, and with it, the transversal drawing of the vulvar orifice to which is restored its normal longitudinal appearance, and the head traverses without causing injury the osseous, the inferior and muscular straits, and the vulvar orifice as in a normal labor.

The operation has then been terminated in its essential parts. The umbilical cord is tied or clamped, cut, and the new-born given to a nurse. A vaginal injection is given, the placenta removed, an intra uterine injection follows, then a large wick of iodoform gauze as a tent is placed in the vagina. The tampon placed in the wound is removed, the surface of the wound is touched with a 5 per cent solution of carbolic acid, or $^1/_{1000}$ of bin-iodide of mercury. The assistants bring together the iliac bones by pressing on the hips. The suture of the integuments is made with three deep and three superficial sutures of silk or silver. The wound is covered with iodoform gauze and antiseptic cotton. Around the hips is placed a very tight bandage and a T bandage.

The subsequent dressings must be applied twice a day, changing the iodoform gauze, which becomes soiled inferiorly and then washed after each micturition. The iodoform wick placed in the vagina may be left in two or three days; it secures the antisepsis of the vagina and dispenses with injections during this first period. Injections are difficult to give without disturbing the bandage around the hips.

About the eighth day the wound is cicatrized. An edema of the pubis or vulva sometimes takes place, and is of no consequence.

The temperature and pulse are as in ordinary labors. Zweifel has however noticed moderate fever in some of his cases, the recovery of them having eventually been satisfactory. The diet should be that of all parturients. Sometimes, the first or second day, the patient presents some tympanitis, which readily yields to an anema made of a glass of wine and two tablespoonfuls of glycerine.

Opiates should be avoided during the first days, as giving rise to tympanitis.

Towards the tenth day the woman is allowed to move about in her bed, and can get up the twenty-fifth day without experiencing any suffering in her symphysis or sacro-iliac articulations. All the mothers were able to nurse their children.

It is by following the above technique that Professor Pinard was able to present to the Obstetrical Society of France, in April, 1893, the results of 19 symphysiotomies (he had since then, to the end of 1893, 20 other equally successful operations, the details of which I have not been able to obtain). Of the first 19 operations all the mothers have recovered and 16 of the children. Of these three children lost, two died from injuries caused by a previous application of the forceps. Sixteen of these women had had before 30 parturitions which were terminated according to the methods employed before symphysiotomy was practiced, namely, by induction of premature labor, forceps, version or basiotripsy. These 30 pregnancies had resulted in the birth of *two* living children.

As in every operation, there are in symphysiotomy certain difficulties to which attention should be called.

1. There may be some hesitation in finding the fibro-cartilage of the symphysis, if the bistoury does not act on the median line. This error can be obviated by searching for the cartilage on the superior border of the symphysis, between the spines of the pubis, and not on its anterior face. It should also be remembered that occasionally the symphysis is not in the median line, but to one side, generally to the left.

For instance, if the patient has an oval-oblique pelvis, where one ramus projects in advance of the other, the symphysis of the pubis is not in a median line but is to be found on one side.

Pubiotomy should then be performed by separating with a chain-saw the advancing pubic ramus, and thus obtain sufficient room for the passage of the child.

Pinard has lately performed pubiotomy under the above circumstances.

2. Certain German authors (Leopold, etc.), teach that only an incomplete section of the symphysis should be practiced and therefore do not cut through the subpubic ligament.

As a consequence, the widening between the iliac bones is nul or insufficient. The same failure may arise from timidity on the part of the operator.

The symphysis must be cut in its entire height in order to obtain a sufficient empty space between the pubic bones. During the section of the inferior parts, the urethra, drawn down by a metallic catheter, runs no risk of being wounded. At this moment it sometimes produced a diffused hemorrhage, which Pinard has always been able to control with tampons, and compression of the anterior part of the vagina.

3. Before the extraction of the child, a certain widening of the iliac bones must be produced by an abduction of the thighs, in order not to allow the head to dilate the pelvis, which otherwise would result in a traumatism of the head of the child. When this previously intended and well calculated widening is obtained, the assistants who hold the thighs must not move; they must not decrease nor enlarge this widening without an order from the operator.

4. The head must be seized by a regular application of the forceps, the blades being accurately applied to the parieto-malar regions of the head, which must be flexed. If the hold is irregular the hand presents too long diameters to the pelvis, and may be fractured if

the assistants do not maintain a sufficient widening of the iliac bones.

5. The head having descended in the excavation, and its movement of rotation accomplished, before making the extraction through the inferior osseous and muscular straits, the advice of Varnier must be followed by bringing together the pubic bones whose separation is no longer useful; the vagina, as stated above, is no longer drawn transversely, and the iliac bones resume their agency in supporting the soft parts which will not then be lacerated.

In order to perform symphysiotomy, one must have practiced it at least on the cadaver.

As for the operating material, it is possible to improvise it in case of urgency. One assistant is required to give chloroform, two assistants to hold the legs. The latter assistants being passive, need not be skilled ones, so that they be closely watched; antiseptic substances should be within the reach of any one who practices medicine in our day; the instruments needed are a straight and a probe-pointed bistoury of large size, or a Galbiatti knife, artery forceps, a metallic catheter or sound, needles, and silk or silver ligatures; all these instruments are to be found in every surgical pocket case stout cloths or plaster of-Paris are to be easily procured.

"Be certain of this fact," said Pinard in one of his lectures, "that it is easier to open a pelvis than to open a trachea or to operate a strangulated hernia; operations that every physician ought to be able to do.

"Study symphysiotomy. The technique which I have described seems to me the simplest and easiest of execution. Operate in this manner, and you will have no complications.

"Symphysiotomy may, however, present two complications to be avoided:

"1. The previous infection of the mother.

"2. The previous injuries to the child by a premature use of the forceps or version. Avoid the one, do not produce the other, and I predict success in your operations."

We must conclude by saying that a return to symphysiotomy is a great progress, but this progress is due in a great measure to the observance of a strict antisepsis.

Garrigues says that symphysiotomy is a valuable addition to obstetrical resources. It ought to be performed frequently in maternities and in private specialist practice, and should be preceded by accurate pelvimetry.

A New Medical Journal.—The Missouri State Board of Health is going to publish monthly the *Missouri Sanitarian*, which will be devoted to the dissemination among the people of this State of matters apertaining to the public health, and edited by a committee of the State Board of Health, consisting of Drs. Lutz, Merrell and Paquin.

EDITORIALS

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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A Timely Suggestion.—Movement for the Establishment of a State Examining Board.

We have received the following communication from our well-known and esteemed colleague and fellow-citizen, Dr. Thomas O'Reilly:

ST. LOUIS, MO., November 17, 1894.

DR. L. T. RIESMEYER, Editor MEDICAL REVIEW.—

"DEAR DOCTOR.—The editorial on medical education which recently appeared in your publication leads me to believe that you will be glad to take part in a movement for the establishment of a State Board who shall examine all applicants for permission to practice medicine in this State.

"It seems to me for many reasons desirable that such a Board should exist. In Europe, where the medical schools are directly or indirectly under the supervision of the State, medical education may be controlled by the government. In our country, where medical schools are private institutions, and are in no way subjected to State inspection, the State can have but little control of the schools, except by the action of a Board, such as I have mentioned.

"The State is in no way interested in the details of

education, it is simply interested in the results of such education, as shown by the mental equipment of medical practitioners.

"It will probably be impossible to bring about the enactment of laws controlling the medical schools directly. It is, however, possible, by the establishment of a Board, to control their teaching directly. The reports which we have from the sixteen States and the many foreign countries in which such Boards exist lead me to believe that such a Board would be beneficial in our own State. The constitution of such a Board, and the special laws which should govern it, may for the present be left without discussion. The main question which I bring forward at this time is, whether it would not be wise for the medical practitioners of the State to work for the passage of a law establishing such a Board. The question seems to me to be one which the profession may discuss with profit to itself.

"If you would offer the use of your columns to the physicians of the State for the discussion of this question, I feel that you would be doing a great service to the medical profession."

THOMAS O'REILLY, M.D.

The REVIEW will only be too glad to see this matter discussed by the independent element of the profession of this and other States, and we herewith offer our columns to this purpose.

It is certainly a subject which is of vital interest to all physicians in good standing, and it augurs well for the success of a reform movement in the direction of elevating and purifying the medical profession of our State, that a man like Dr. Thomas O'Reilly takes a keen interest in this matter. We heartily endorse every word in the doctor's communication and hope that this important matter will be thoroughly and exhaustively discussed in our columns.

The Deutsch-Amerikanische Medizinische Zeitung Once More.

The other day we ran across a manuscript which for some unaccountable reasons had been mislaid and forgotten. It contains an anthology or collection of flowers, culled from an editorial of our esteemed contemporary, the honorable Gustavus Blech, M.D. On several occasions we have called attention to the peculiar exotic plant in the garden of American journalism called the *Deutsch Amerikanische Medizinische Zeitung*. As the name implies, it is published in German—and what a German.

* * *

There are certain languages which, in the experience of men with cosmopolitan tendencies, are peculiarly adapted to express specific kinds of thought and emotion; thus, for instance, Charles the Fifth declared that he would speak Italian to his love, French to the diplomats and "cuss" his adversaries in German. Dr. Gustavus Blech differs from Charles the Fifth in this particular; his German, in an attempt to roast the editor of the REVIEW, was deemed by him inadequate for the purpose, and he resorted to the old and reliable English idiom, which, it must be stated to his credit, is more readable than his German. For the edification and information of the lovers of the St. Louis medical war news we reproduce in the following the epithets and adjectives used in Dr. Blech's editorial as regards the person of the editor of the MEDICAL REVIEW: "Highwayman; bad man; dog in the manger; blackmailing individual; narrow minded; bigoted; envious; obliquely constructed; joy killing; fault finding; venom and falsehood spitting."

What an immense relief such an expletion of retained, inspissated and accumulated gall must have been afforded the editorial sufferer! Call again.

A Compliment to American Cleanliness.

In a recent meeting of the Dermatological Society of Berlin, the possible connection of trichorrhexis nodosa and the shaving brush was referred to by a member, who had verified the microscopical finding of an American investigator, who had found the nodosities (caused by bacteria) in the hairs of the lather brush. The possibility of this source of infection was discussed. Incidentally Dr. Lassar mentioned that these infections would continue to multiply in Germany until the Germans would see fit to imitate the Americans, every one (?) of whom possessed his own shaving outfit, kept and used by the barber for the owner exclusively. The Americans, Dr. Lassar said, were as particular about their shaving outfit, as the Germans were about their tooth-brush.

If Dr. Lassar, during his short stay in this country, has observed how the average barber rummages in the hair of one customer, using the same microbe-breeding brush and comb on the scalp and mustache of "next," not to speak of the barber's hands and fingers which as a matter of course are looked upon as clean, since they come so often in contact with soap, he would, perhaps, modify his favorable opinion somewhat.

It was suggested at this meeting that every barber should be compelled to wash his hands before the eyes of the customer previous to handling the customer's face. An excellent suggestion, which may possibly be carried out in military and autocratic Germany, but which will not have the ghost of a chance in free America, if we judge the spirit of independence of American barbers (especially the colored portion) aright.

Tonsillitis.

℞ Sennine, - - - - - - - - - - ʒij.
Aq. menth. pip., - - - - - - - - fʒvj.
M.
Sig. Gargle.

MEDICAL SOCIETIES

New York Academy of Medicine.

SECTION ON SURGERY.

Stated meeting, October 8, 1894. B. FARQUHAR CURTIS, M.D., Chairman (*Medical Record*).

HERNIA TREATED BY THE WIRE MATTRESS METHOD.

DR. A. M. PHELPS presented a young man to illustrate the treatment of hernia by the method which he had described some months ago, one of the chief features of which consisted in weaving silver wire in the form of a mattress into the layers of muscle when closing the wound, with a view to offering a stronger barrier against recurrence. While there had been no recurrence in the several patients treated in this manner, yet it was too early to speak of a permanent cure, and he showed this patient simply to prove that the presence of the wire in the tissues caused no inconvenience after having been worn seven months. In one or two cases there had been a little superficial suppuration, but not of consequence; the cases which he had treated had been severe ones, the opening large.

HERNIA AFFLICTED.

DR. CURTIS presented a man who had had double inguinal hernia, the McBurney operation having been done on one side, the Czerny on the other. Both had given way, the McBurney first, after which it had been followed by Macewen's operation, which still held. Four weeks ago Dr. Curtis performed Basini's operation on the other side.

BENDING OF NECK OF THE FEMUR.

DR. CURTIS presented another patient, a young man, who had been admitted to St. Luke's with the diagnosis of tubercular arthritis at the hip of fifteen months' duration; but when Dr. Curtis came to operate he found, on reaching the neck of the femur, that it was healthy in appearance, but bent, bringing the head down on a level with the trochanter. The neck appeared also to be somewhat shortened. He at once closed the wound, and it healed by primary intention. The case belonged among a class of which Hoffmeister had collected about forty, of softening of the neck of the femur, resulting in bending and consequent shortening of the limb, and more or less mechanical limitation of motion and pain on use. The trochanter projected more than on the sound side.

DR. ROYAL WHITMAN presented two patients, a young man and a boy, with the same trouble. In the first there was bending of the neck of the femur in both limbs, producing the deformity known as scissors legs, the two limbs crossing each other at the knee. In this case the diagnosis of softening of the neck was made before there was scarcely any deformity, but his advice was not taken, the patient continued at his work, saw various physicians who made the usual diagnosis of hip-joint disease, and finally of paralysis, because of his awkwardness. Dr. Whitman intended soon to divide the femora and overcome the crossed position of the legs. Flexion and extension were almost free, but power of abduction was very limited; rotation was also limited. In the second case there was bending of the neck of the femur only on one side, and the symptoms were like those in other forms of knock-knee. There was only limitation of abduction in this case, and the shortening amounted to half an inch. No case yet reported had occurred after the twentieth year.

FRACTURE OF ULNA AND RADIUS.

DR. JACOB TESCHNER presented a boy who had fractured the ulna and radius from a fall in July, and when seen soon afterward was found to have the end of the lower fragment of the radius in contact with the end of the upper fragment of the ulna. Four short splints, one on each of the four aspects of the forearm, were applied, and over these a longer splint with a webbing, extending two inches beyond the fingers, to give sufficient extension to prevent the fractured ends from slipping past one another. The result had been perfect.

ENORMOUS SARCOMA OF ILIUM TREATED SUCCESSFULLY BY INOCULATIONS.

DR. W. B. COLEY presented the young man whom he had first shown to the section last spring, through the kindness of Drs. George F. Shrady and F. Kammerer, when there was an enormous sarcoma of the ilium on the right side. The patient's health was declining rapidly, an operation was entirely impractical, and under these circumstances he had, with the consent of the gentlemen named, undertaken treatment by injections of the combined virus of erysipelas and the bacterium prodigiosus. The injections were kept up over a month, during a part of which time, and for some weeks after cessation of treatment, the tumor sloughed and discharged in great masses. While the sloughing was going on, the patient's condition became critical, but afterward he regained flesh and strength. At present there was only a slight discharge from one of the sinuses, around which there was moderate inflammatory thickening. The ilium had resumed nearly its normal size. In a paper which he had read at Washington last spring, he had reported five other cases which could be pronounced cured by this method, the total number so treated by him having been twenty-five at that time. Since then he had had two other cases. The percentage of successes had been about one in five.

DR. GEORGE F. SHRADY remarked that he had watched this case and the treatment with great interest from the time it first entered his wards, and had been perfectly astonished at the result. It was clearly an inoperable case, as an operation would have involved resection of

way of toxin treatment, but knowing that this was an age of progress he asked Dr. Coley to kindly come into the wards and try that method. The result seemed to be that the patient was cured. He could not recognize any of the original growth, and there was reason to hope there would be no recurrence. He believed now that there was a great future for this toxin, and should never be discouraged in inoperable cases until it had been tried. It gave one reason to hope that something might yet be found equally efficient in cancer.

Dr. Curtis referred to a case in St. Luke's Hospital, of very large secondary sarcoma of the clavicle, the growth of which had ceased after using the injections two weeks, but the treatment had to be discontinued on account of deposits in the lungs, and hemoptysis. The effect of the injections had also been shown in the regular rise of the temperature every day or two, just as had occurred in Dr. Coley's case.

Resection of Knee for Charcot's Disease.

The Secretary showed, in behalf of Dr. Willy Meyer, a man with locomotor ataxia with so-called Charcot's disease of the left knee, which had been resected by Dr. Willy Meyer in 1887. Although the spinal disease had progressed, there had been no further trouble with the affected knee. Bony union had not taken place. There was slight motion, Nature having formed a sort of condyle and socket.

Dr. Syms was not convinced that this patient was better off than he would have been without an operation. At the same time that Dr. Meyer was about to operate, he had himself a patient on whom he wished to excise the knee for Charcot's disease, but the patient refused, and afterward partial bony anchylosis formed and left a better joint than probably would have resulted from any effort to bring about artificial anchylosis.

Improved Osteoclast.

Dr. W. M. Phelps presented a Grattin osteoclast which he had modified in a way to obviate breaking of the skin and producing compound fracture. The new instrument was also stronger and easier to operate.

Multiple Neuro-Fibromata.

Dr. C. N. Dowd read a brief paper in which he described two cases of this affection. The first was in a man aged thirty three, who during the past two years had had probably as many as two hundred tumors on the surface of the body, most of them freely movable on the underlying tissue but attached to the skin, the surface having a red angiomatous appearance. On removing one it was found to be a fibroma of the variety known as neuro-fibroma. Such tumors were ordinarily benign, and caused trouble only by their mechanical irritation and disfiguration. afterward others over various parts of the body, varying in size from a pea to a horse chestnut. They had the appearance of the tumors in the other case, except that in some there was a tendency to necrosis. There was no history of syphilis, yet mercurial inunctions caused the tumors to disappear, proving their syphilitic origin. Replying to a question, he said there was no neurotic history.

ABSTRACTS

MEDICINE.

On the Value of Repeatedly Washing Out the Stomach at Short Intervals in Cases of Opium or Morphine Poisoning.—Among the many researches that have been made on the physiological, therapeutical and toxicological properties of morphine since its isolation by Surturner in 1817, those of Marme, Leineweber, Alt and Tauber, demonstrating its elimination by the gastric mucous membrane, take a leading place. The medical profession in general does not seem, however, to be familiar with the practical applications that may be made of this discovery and it is worth while to record the following case of opium poisoning in which a chemical examination was made of the urine and of successive stomach washings, especially since the results agree with those found by the above-mentioned investigators in their experiments on animals.

On the evening of May 2, 1894, 660 cc. of a sherry-red fluid was sent from the hospital to the pharmacological laboratory, the liquid being part of the washings of the stomach of a Chinaman, Lee Hee, who had attempted suicide.

A report was requested as to the kind of poison that had been taken. The fluid was clear, with a few bits of orange pulp floating in it, and it smelled faintly of crude opium; it was filtered and gave the characteristic meconic acid reaction, namely, the red color with ferric chloride or ferrous sulphate which persisted on the addition of hydrochloric acid and also when boiled. A second portion of the filtered fluid was made alkaline with sodium hydrate, shaken up with ether, the ether removed and evaporated, the yellowish-white residue from the ether dissolved in a little acidulated water and this solution examined for alkaloids. It responded perfectly to the following reagents: platinic chloride, iodine in potassium iodide solution, sodium molybdate in sulphuric acid (Frohde), potassium bismuth iodide and potassium mercuric iodide. The presence of meconic acid and of alkaloids being demonstrated, it became evident that we were dealing with poisoning by opium.

Lee Hee is supposed to have taken the opium at about 10 A.M., and the quantity taken we estimated to be at least ten grams, judging from the amount that still remained in the little jar which was known to have been full when the suicide was attempted.

About half-past five Lee Hee was brought into one of Prof. Osler's wards in a comatose condition and it was evident from the state of his respiration and circulation that he was not likely to recover. At this time the stomach was first washed out and the process was repeated until the physicians in charge had reason to think that there was no longer any opium in the stomach. A second lavage was made at 8 P.M., and a third at 11:30 P.M., a quarter of an hour before death. The fluid secured in these last two washings was colorless and from this fact it may be concluded that all the crude opium had been removed by the first washing, though unfortunately this conclusion could not receive positive proof, since the last portion of the washing was not kept separate from the rest and chemically examined. All three washings were examined for opium and morphine and the results, which will presently be given, at least demonstrate the practical value of repeated stomach washings, even after all ordinary signs of opium, such as color and odor, are no longer found.

At 6 P.M., 75 c.c. of urine was removed by the catheter and submitted to a chemical examination by Landsberg's method for the detection of morphine in the urine. The residue finally obtained was a mixture of urea and morphine. No difficulty was experienced in identifying the former, it appeared in the characteristic four-sided prisms with pyramidal ends. In addition to these crystals of urea there were seen numerous very small rhombic prisms. Whether the latter were certainly crystals of morphine was not determined; nevertheless the chemical tests demonstrated the presence of morphine in considerable amount. This difficulty in separating morphine from urea is not peculiar to this case, but is due to the fact that both behave toward solvents in much the same way. Control tests showed that urea does not interfere with the following morphine reactions. A minute quantity of the residue dissolved in water and treated on a porcelain dish with a drop of ammonium molybdate gave a yellow precipitate, and the addition of a drop or two of concentrated sulphuric acid caused that beautiful play of colors, violet, blue and green, which solutions of morphine give under the same conditions (Frohde). A fragment of iodic acid added to the diluted residue was reduced and the free iodine recognized by shaking with chloroform. In this way the presence of morphine in the urine was demonstrated. In the present case, therefore, there was no difficulty in proving the elimination of at least a part of the ingested alkaloid through the urine. Yet there is probably no point in the physiological history of morphine which has given rise to more controversy than its presence or absence in this excretion. The controversy involves not only the immediate experimental results but the more general problem of the fact of morphine in the body. Thus, some observers after demonstrating that the alkaloid was present in the urine claimed that it passed through the body unchanged; others, failing to find it, argued that it suffered a destructive oxidation and could not be demonstrated as morphine in the urine. But it is now generally admitted that after large doses of the alkaloid a small quantity appears in the urine.

It is in the stomach, however, that the elimination of morphine proceeds most actively. The practical importance of this gastric excretion will be evident upon considering the results of the stomach washings in the present case.

Of these there were three as already mentioned. The first was the sherry-red fluid giving meconic acid reactions, and upon treatment by the method of Stas, alkaloidal reactions. This fluid was treated like the urine and a similar brown residue was obtained. This residue was dissolved in water, acidulated with hydrochloric acid and again evaporated. During this evaporation a white precipitate separated out which upon examination was found to be calcium phosphate, one of the inorganic constituents of opium. Having removed this salt, the residue was dissolved in warm absolute alcohol and allowed to evaporate spontaneously. Morphine crystals of a definite type were not obtained, but the solution gave beautiful morphine reactions; reducing iodic acid, responding to Frohde's reagent, and giving a pink color with sulphuric and nitric acids (Husemann).

As already stated, it was believed that all the opium was removed during the first washing, and the fact that the second washing came out colorless seems to confirm this view. Nevertheless the latter liquid gave fine alkaloidal reactions, but did not respond to the tests for meconic acid. In other words, at the first washing the ingested but unabsorbed opium was removed; between this first lavage and the second the alkaloids had accumulated again. How? It could only have been through an excretion by the gastric mucous membrane. Nor did the elimination of the poison stop at this period; for, the third washing made several hours later, colorless also, still gave good reactions.

The meaning of these results must be clear. They point to the excretion of the alkaloids of opium by the mucous membrane of the stomach and suggest a practical application of this fact. If, as has been shown, these alkaloids, and morphine in particular, are excreted into the stomach, then washing this viscus repeatedly and at very short intervals to remove the alkaloids as fast as they are eliminated, must certainly be a life-saving process whether the poison has been taken by mouth or hypodermically. Poisoning by the latter method has not, as far as can be ascertained, been treated in this manner in spite of Alt's demonstration of the presence of morphine in the stomach washings of men who had received 3 cg. of the hydrochlorate subcutaneously. The quantity of the alkaloid capable of being removed by repeated washings has been estimated at almost one-half. Tauber also recovered 41.3 per cent from the

feces of dogs to whom morphine was administered subcutaneously but where the stomach had not been washed out. Alt has ascertained that for dogs, doses of more than 10–12 cg. morphine pro kilo may be considered lethal; 17 cg. pro kilo almost invariably caused death. On the other hand, if, immediately after the injection, the stomach was washed and the lavage continued for forty-five minutes, then 10–12 cg. pro kilo never produced serious symptoms, and indeed with 17 cg. and even 20 cg. pro kilo the symptoms of poisoning were not so severe as when 12 cg. were administered without repeated washing. Two dogs were saved after the injection of so large a quantity as 24 cg. pro kilo. This evidence goes to prove that the excreted morphine is reabsorbed and that it still has toxic properties; and may not the frequent relapses following apparent recoveries from overdoses of morphine also furnish proof of such reabsorption? By a continuous lavage the exchange that goes on between the gastro-intestinal mucous membrane and the general system would be interrupted, and in proportion as the alkaloids excreted by the mucous membrane are removed the effects of their reabsorption would be avoided. Conformably to the results of Alt's experiments, the lavage should be repeated at short intervals, and the sooner this can be done after the opium or morphine has been taken, the better. In the case cited in this paper no successful outcome could be anticipated, because too long a time elapsed between the taking of the opium and the beginning of the treatment.

In connection with this subject it may be well to repeat Kobert's suggestion, that a chemical examination of the feces should be made in cases where the morphine habit is suspected but is denied by the patient, and where for various reasons it is difficult to secure conclusive evidence of the fact in other ways.—L. P. Hamburger in *Johns Hopkins Hospital Bulletin.*

Hypertrophy of the Pharyngeal or Luschka's Tonsil.—An analysis of 100 cases leads the author to the following conclusions:

Hypertrophy of Luschka's tonsil is comparatively infrequent, occuring in only 2 per cent of the patients with diseases of the chest, throat and nasal cavities, and probably in not more than one-half of 1 per cent of all cases.

The disease is observed in 90 per cent of the cases before the fifteenth year of age, and is probably always developed in infancy or early childhood, some cases appearing to be congenital.

Ten per cent of the cases are apparently hereditary. Sixteen per cent may be attributed to frequent colds; but in 63 per cent no etiological factor can be discovered.

In the great majority of cases the affection is apparently due to the same causes as enlargement of the faucial tonsils, and in 76 per cent of the cases the faucial tonsils are also hypertrophied.

In a considerable number of cases, amounting to 18 per cent, the general health is materially injured by this affection.

The sense of smell is obtunded or lost in 11 per cent.

Hypertrophy of Luschka's tonsil is a frequent cause of headache, it being present in 27 per cent of the cases.

It is a frequent cause of deafness, the hearing being affected in one-third of the cases. The deafness so caused may be benefited in a large majority (70 per cent) of cases by operative procedures, 66 per cent being greatly ameliorated, and about half of these being completely cured.

The disease causes much alteration in the voice in about 70 per cent of the cases. In nearly eight-tenths of these the voice may be greatly improved as the result of treatment.

In about 40 per cent of the cases there is decided dyspnea, resulting from partial closure of the nasopharynx.

Forty per cent of these patients have more or less cough, in about one-third of which it is quite severe.

The pharyngeal follicles are enlarged in about one-fourth of all the cases. The nasal cavities are more or less closed by swelling or hypertrophy in 50 per cent of the cases, and 56 per cent complain of catarrhal symptoms, but in about nine tenths of these the symptoms are removed by extirpation of the glandular tissue.

Although deterioration of the general health is not usually complained of, it is found as the result of operation that in many cases great improvement occurs immediately, the patient often gaining 30 per cent in weight within six months.—E. Fletcher Ingalls in *Jour. Am. Med Ass'n.; Am. Med.-Surg. Bull.*

Seborrhea.—One of the most thoroughly investigated subjects in dermatology is seborrhea, and this, ever since Unna, in 1886, told us that we were all wrong about the nature of the disease. Our author ventured to try conclusions with Unna in 1893, and now returns to the attack. He grants, as all do, the exactness of Unna's clinical description of seborrheal eczema, but asks:

1. Is it true that the oily seborrhea is really a hypersecretion from the sweat-glands?

2. Is the vernix caseosa also a product of a true hypersecretion from the sweat glands, mixed up with exfoliated epidermis?

3. Is every case of seborrhea, excepting the oily form and the vernix caseosa, truly an inflammatory affection, involving, in the main, the sweat-glands?

4. Is this the case with so-called dandruff, the pityriasis capitis of some?

He answers the question (1) that in many experiments he failed to find evidence of fat in the sweat from the palms when the same had been carefully cleansed from all extraneous fat; moreover, he found no relation between the amount of fat and the number of sweat-glands in the skin of different animals, and never found,

in osmic acid stained sections of the skin of different animals, any evidence of fat in the epithelium of the sweat-glands or their ducts, or in the lumen of either.

Question 2 he answered in the negative, because he found in a section from the scalp of a new-born infant, on which the vernix caseosa was present, a fatty layer on the surface of the epidermis blackened by osmic acid and continuous with blackened fatty matter in the sebaceous glands, while the sweat glands and ducts showed no blackening.

To question 3 he is not prepared to give an answer. He recognizes the transition from the pale to the reddened skin in these cases, but does not believe that the sweat-glands secrete fat.

He is prepared to answer question 4 from the recent examination of a case in its final stage with alopecia. He found that all the hairs were bed hairs; there was evidence of slight inflammation; the granular layer of the epidermis appeared wanting; micro organisms were found superficially only; there was much fatty matter in the sebaceous glands, the follicular orifices and on the surface of the skin. The sebaceous glands appeared large. There was no evidence of fat in the sweat coil epithelium or in the ducts. From all the foregoing he concludes that the old-established view that seborrhea is a disease of the sebaceous glands is correct; and that the so-called dry seborrheas are inflammatory, and may, therefore, be included under the general term seborrheic eczema.—W. Beatty in *Brit. Jour. Dermat; Am. Med.-Surg. Bull.*

Effect of Exercise upon Urinary Toxicity.—Phillippe Tissie reports in the October number (1894) of the *Archives de Physiologie* the results of a minute study of Stephane during an effort by the latter to beat his own bicycle record of something more than four hundred miles in twenty-four hours (*Modern Medicine*). One of the most interesting made, was a study of the toxicity of the urine. It was found that ten cubic centimeters of urine produced during the last hours of the effort killed one kilogram of rabbit. The next day the toxicity had greatly diminished, twenty-two cubic centimeters being required to kill one kilogram of rabbit. The urinary co efficient of the exercise was found to be 2.35, and that of the urine produced on the following day was .893. There was no increase of either uric acid or urea on the day of the exercise, but the phosphates, the urea and the uric acid were doubled on the day following the effort. The amount of chlorides excreted on the day of the exercise was normal, or, 13.5 grams; but the day following, the excretion of chlorides was considerably diminished, being only one-fourth the normal, or 3.12 grams. The subject lost in weight 6.3 kilograms, or 13.8 pounds, during the exercise. He took, as nourishment, only milk during the exercise. The total amount of liquid swallowed during the twenty-four hours was 3.775 liters.

From several conclusions drawn by the author we quote the following:

"1. Milk is an excellent food for normal muscular work; but it is insufficient to sustain violent and prolonged muscular effort, in which case the hydro carbons must be taken in as much greater quantity as the muscular work is prolonged. The proportion of five to one of the hydro carbons in relation to the nitrogenous elements must not only be maintained in prolonged physical exercise, but must be increased according to the physiological state of the subject at the time. Thin subjects should secure an increase of flesh as a preparation for prolonged and violent muscular exercise.

"2. Subjects in whom the alimentation is insufficient, are, during violent exercise, in a state of acute autophagism. This condition begins a little time before the need of food appears. The body gives off the required force in waves. The auto phagism may be prevented by the administration of food at the moment when force diminishes, even though the subject may be unconscious of the need of food.

"3. The excito-motors must be given with great care; they play the role of borrowers. Their action is diminished by repetition. Alcohol should be given only a few minutes before the effect of the muscular act, to momentarily sustain the subject in the last effort.

"4. Fatigue of the muscles of locomotion, and that of the heart, do not necessarily correspond. The muscles of animal life may be greatly overworked without overworking the heart However, a reciprocal relation exists between these two—the heart and the muscles of animal life.

"5. All persons who subject themselves to prolonged and violent muscular exercise place themselves in a state of auto intoxication, which is revealed by the urine, and which may attain a very high co efficient, such as is found in grave infectious maladies. This state of poisoning continues during twenty-four hours in persons in whom the renal hepatic and cutaneous functions are normal. The weight of perspiration lost during the exercise amounted to seventeen pounds."

"Congenital" Ichthyosis.—This is a skin disease of the fetus, characterized at birth by the presence of a continuous layer of collodion like substance over the whole body, which later comes away in small tissue paper flakes. It is sometimes accompanied by ectropion and eclabium. It is not always fatal, some cases even being completely cured.

The disease is very rare, having been first observed in 1841 and only 36 cases are on record up to date. The history of the parents in most of these cases revealed nothing of note, but in several instances a "family prevalence" was noted.

Of twenty-six cases, ten occurred in males and sixteen in females. The whole body was covered with a firm, dry, shining, and tense membrane like collodion or varnish, sometimes whitish, sometimes a dusky brown. Desquamation begins in a short time, being preceded by cracking of the pellicle. The fissures are usually superficial and are especially numerous around the joints

posed by this exfoliation in its turn cracks and scales off, and in this manner a continuous process goes on all over the body. Pruritus is sometimes present. In some cases the skin becomes normal in a few weeks while others remain unchanged up to an advanced age. Microscopically, Caspary found that the ichthyotic skin was only half as thick as normal and that the panniculus adiposus was much reduced. The epidermis was, however, relatively much thickened, which condition was accompanied by an atrophy of the cutis vera and the subcutaneous adipose tissue. The absence of sebaceous glands and the marked development of the sweat glands are noteworthy.

As to the mode of origin of this form of fetal ichthyosis, little can be positively affirmed, but the diagnosis should not present much difficulty. It might be mistaken for dermatitis exfoliativa neonatorum, and the author thinks a close connection between the two is possible.

Therapeutic measures have seldom been successful, the chief indication being to maintain the health of the child and to soften the epidermic covering. Antimony, mercury, iodides, iron and cod liver oil internally have proved of doubtful value.

Externally, alkaline baths and friction with glycerin or oily substances, peroxide of hydrogen, salicylic acid and diachylon ointment have been tried with varying results.—J. W. Ballantyne in *Archiv. Pediat; Amer. Med.-Surg. Bulletin.*

Intestinal Obstruction in Children.—Monti (*All. Wien. Med. Zeit*), after discussing the causes and general symptoms of intestinal obstruction in children, and accepting in the main the views of Leichtenstern, gives the following points as those which are of value in forming an opinion as to the site of the obstruction:

1. In the lower part of the colon the first symptom of acute obstruction is painful colic, and the region of the abdomen in which the colic is first felt may afford some indication of the part of the colon obstructed. Vomiting does not occur until the colic has lasted for some hours or days; it is at first bile stained, then becomes foul, and finally feculent. Collapse sets in late; gaseous distension of the intestine begins in the colon, and at first it may be possible to make out that it is limited to the region occupied by the colon (flanks and epigastrium), but later the ileum also becomes distended, and the tympanites may reach a very high degree. In incomplete obstruction the symptoms are the same, but develop more slowly. Action of the bowels may occur, and be attended by temporary relief, especially of the tympanites. If the rectum be incompletely obstructed, constipation alternates with attacks of painful tenesmus, followed by the passage of small scybala. Circular constriction of the rectum causes the motions to be of small caliber.

2. Acute obstruction in the lower part of the ileum in the ileo cecal region. Each paroxysm of colic induces an attack of vomiting, the vomited matter being at first the contents of the stomach, but later fecal. Collapse sets in early. The distension of the abdomen is most marked at first in the umbilical and hypogastric regions, but in time becomes general; it is not notably diminished by vomiting. At first several fecal stools may be passed, but after a few days there is complete constipation. The quantity of urine is diminished after the first few hours or days, and there may eventually be suppression. When the obstruction is incomplete the colic may be as severe, and the movement of the coils of intestines perceptible. The degree of distension may vary greatly in a very short time, and this independently of the passage of a stool. The constipation, after lasting some days may be succeeded by copious foul diarrhea.

3. Acute obstruction in the duodenum or jejunum causes severe colicky pain, starting about the umbilicus and radiating towards the stomach. Vomiting comes on early and is violent; the vomited matter is at first bile-stained, later it becomes foul smelling. Gaseous distension is slight, and is limited to the epigastrium. It may be very much diminished by vomiting, but collects again. The bowels may at first act spontaneously or after enema, but eventually there is complete constipation. Suppression of urine is established early. When the obstruction is not complete, the symptoms are similar but less severe. The colic is painful, and the vomiting, either in relation with the colic or independently, very frequent. The quantity of urine is diminished. There is no distension of the abdomen and diarrhea alternates with constipation. Monti considers that if a case is seen early much may be learned as to the probable seat of the obstruction by observing the way in which the tympanites develops.—*British Medical Journal.*

Treatment of Psoriasis with Large Doses of Iodide of Potassium.—Following the lead of Haslund, Dr. Seifert has experimented with iodide of potassium in the treatment of thirteen cases of psoriasis, The cases are fully reported in this article. They comprised all varieties of manifestation of the disease. Only two cases showed heredity as a cause. One case appeared in the first year of life. Only four cases were cured. Other cases were apparently benefited, but either left the hospital before the cure was complete or the treatment had to be discontinued because the patient could not bear the iodide. Even when treatment had to be discontinued, it seemed as if local remedies acted with more than usual efficiency. In the four cured cases the average duration of the treatment was seven weeks, and the amount of iodide required was from 344 to 850 grains. Disagreeable effects of the iodide were shown by snuffles, and headaches that were met with in nearly all the cases, but usually passed away as the organism became accustomed to the salt.

Great disturbance of the digestive tract compelled the stopping of the medication in some cases. Intense erythema of the soft palate and edema of the uvula was seen in ten cases. Rise of temperature and great increase of pulse frequency were noted in some cases. One case exhibited a general urticarial exanthem.—Dr. Seifert in *Arch. Derm. u. Syph.; Amer. Med-Surg. Bulletin.*

Differential Diagnosis Between Pulmonary Syphilis and Pulmonary Tuberculosis. Rendu (*Internat. k. Runschau.*) at a recent clinical lecture, presented an old woman who had for a long time been emaciated and cachectic, but without fever. The symptoms were ill-defined; some pain, stiffness of the limbs, without marked weakness or paresthesiæ, dyspnea on exertion, and for a short time a dry cough without expectoration. The respiratory and auscultatory phenomena were found normal anteriorly, but behind there was dullness over the right apex, with roughened, pro longed expiration. There was a loud, rough, systolic murmur, together with a softer and more superficial one, but no symptom of cardiac insufficiency. The arteries were apparently healthy, the liver normal in size and there was no albuminuria. There was a diffuse and characteristic syphilitic melanodermia, and iritis of two years' standing, nocturnal bone pains and headache. Her only previous illness had been measles. It was pointed out that against tuberculosis was (1) the long duration, (2) the absence of expectoration, of rales, and of concomitant symptoms. Syphill's does not usually attack the apices, although cases of this occurrence are recorded. Syphilis and tuberculosis may occur in association, and tuberculosis may attack a lung previously syphilitic. From the absence of a history of acute pneumonia an undurating pneumonia could here be excluded. The attack of measles was not considered an adequate cause. As there were no ather etiological factors,the changes in the heart and lungs were probably syphilitic. Great improvement followed the exhibition of mercury and iodide of potassium.—*Brit Med. Jour.*

Warts of the Mucous Membrane Coincident with Warts of the Hands.—The *Journal de Clinique et de Therapeutique Infantiles* for October 25 publishes an article on this subject by M. G. Variot, who has had under his observation a young boy, nine years old, who presented several typical warts on the fingers of the right hand (N. Y. *Med. Jour.*). The boy's mother drew the author's attention especially to a small protuberance on the buccal mucous membrane nearly a centimeter behind the labial commissure. Its elevation did not exceed three millimeters and its diameter was about a millimeter. This small mass was of a pearl-white color at its extremity, and contrasted sharply with the red color of the surrounding mucous membrane. It terminated in many fine bristles which gave it the appearance of a small cauliflower. The child was somewhat inconvenienced by this protuberance which he had for several weeks, and he wished it taken off. The author made a diagnosis of papilloma of the buccal mucous membrane, which, he thought, had been developed in all probability by secondary inoculation of the typical warts on the fingers. The bristle-like aspect of this small tumor and its exact limitation confirmed the diagnosis of papilloma. The author cut it off and cauterized the base with nitrate of silver.

M. Chabry, an interne of the Hopital Herold, took microscopical sections of the tumor after it had been hardened in alcohol, and on these sections the author had seen many protuberances fringed at the extremity and showing all the characteristics of horny productions analogous to those which are met with in verrucous papilloma. M. Variot thought that the papilloma on the mucous membrane was connected with the warts on the face, and that in this case there had been self inoculation, since the child had had typical warts on the hands. This fact, he thought, might be added to others to prove the inoculability of warts, not only on the cutaneous surface, but also on the surface of the dermo-papillary mucous membrane.

SURGERY.

Experimental Section of the Fifth Nerve.—D'Antona (*Il Policlinico*) relates his investigations on the section of this nerve as it emerges from the pons. He first draws attention to the vulnerability of the fifth nerve owing to anatomical peculiarities and to the consequent frequency of obstinate neuralgia. Hence the importance of the consequences of abolition of function due to its division is obvious. The difficulty in dividing it lies in the risk of injuring other structures. The author has succeeded in dividing the nerve in five out of seven dogs at its exit from the pons. All results tend to show that division of the ophthalmic branch gives rise to severe trophic eye lesions. It has been believed that division above the ganglion either postpones or abolishes such trophic changes, and hence such division has been attempted in man (Horsley). The author's experiments have led to the opposite results, as in all five cases trophic disturbances soon appeared. He distinguishes two effects, namely, the degenerative changes in the tissues supplied by the divided nerve and the infective or secondary effects. If the nutritional changes have been absent, this must be due to collateral anastomosis. No trophic disturbances are noted in cases of trigeminal neuralgia. In the author's experiments the diminished resistance of the cornea was specially noted, the first branch of the fifth being, so to speak, a terminal nerve of the eye alone. Tissues deprived of their trophic supply are damaged more easily by unaccustomed pressure, as in bed sores. In the eye minute lesions are thus not readily repaired or become an easy prey to micro-organisms. The only authentic case known to the author of absence of trophic changes after

section of the first branch is that reported by Krause. Trophic impairment makes slight injuries, otherwise harmless, efficient. Certain individuals are so strongly constituted that, notwithstanding the impaired nutrition, they may escape these results if the tissues are protected from all injuries.—*Brit. Med. Jour.*

Immediate Surgical Intervention in a Case of Simple Perforating Ulcer of the Stomach.—The *Mercredi Medical* for October 24, publishes a communication made by M. P. Michaux to the Congres de Chirurgie (N. Y. *Med. Jour.*). The author stated that, so far as he knew, it was the first case in which success had been obtained in France by immediate intervention in perforative ulcer. In September, 1893, a man, thirty one years old, after lifting a rail, had been taken with a severe epigastric pain accompanied by a sensation of internal laceration. Half an hour afterward, the pain not having diminished, the man took a drink of wine. Immediately the epigastric burning increased and the pain became more severe. Three hours later he vomited once. When the physicians saw the patient, eight hours after the accident, nothing in his general condition denoted the gravity of the internal lesion. The pulse was 80 and full, the tem perature was 100.7° F., there was sharp epigastric pain, and the abdomen was retracted and tense, especially at the upper part of the recti muscles.

The author suspected laceration of the stomach or of the intestine, and he urged the necessity of immediate surgical intervention. The operation was performed with the usual precautions. An exploratory incision was made from the xiphoid cartilage to the umbilicus. When the peritoneum was opened wine, altered and mixed with some remains of food, escaped. The incision was enlarged and the liver forcibly raised by an assistant, and deep under the liver, near the vertebral column, about two centimeters from the cardia on the anterior surface of the stomach, the author found the perforation. This was cleansed and disinfected. Then the author tried to suture the edges of the perforation, but the tissues were too friable. As it was out of the question to excise the ulcer, there was nothing to do but to inclose the perforation in the bottom of a fold made on the anterior surface of the stomach; occlusion was assured by a double row of Lembert's sutures very carefully inserted at equal distances. The incision was closed except at the lower part, through which the author passed an iodoformed pledget as far as the sutured ulcer. Very satisfactory results followed, notwithstanding that, on the eighth day, a slight turbid serosity, which very soon became purulent, escaped. The author, fearing to destroy his own work, allowed the fistula to continue for five months without daring to touch it. The patient, who was at first emaciated in spite of all efforts on the part of the physicians, afterward grew stout. In March, 1894, the author incised the fistulous tract and scraped and cleansed the gastro-subhepatic purulent sac. A month later a cure was obtained, and at the time of the report the patient was in a perfect condition.

It has been established, said M. Michaux, that perforation was a frequent complication of ulcer. A curious fact was that, if the ulcer occurred more frequently at the posterior wall and in the pyloric region, perforation was more frequent on the anterior surface. When the ulcer became perforative, three things might be produced: General peritonitis, partial peritonitis, and fistula. The author thought that perforation might be diagnosticated. The occurrence of perforation, whether it followed a diagnosticated or a concealed ulcer, was always the same thing and left no doubts. There were severe epigastric pains, a sensation of burning and internal laceration, retraction of the abdomen, disappearance of the hepatic dullness, occasional vomiting, and, finally, symptoms of generalized peritonitis with elevation of temperature, or else collapse and hypothermia.

From these facts, said M. Michaux, sprang, without doubt, the necessity of surgical intervention. It was as necessary as in cases of perforation of the vermiform appendix, intestinal wounds, or grave abdominal contusions. This intervention comprised the following steps: An exploratory incision; searching for the perforation; if it was easily accessible, excision or paring, as M. Roux, of Lausanne, had done; if it was only slightly accessible, folding of the stomach, according to the procedure mentioned above by the author; and indirect occlusion of the perforation by a double row of sutures at equal distances. The condition of success was careful intervention within the first twelve or fifteen hours.

Blood-Letting in Eclampsia.—The *British Medical Journal*, in commenting upon Tarnier's recommendation of blood-letting in eclampsia, suggests that the simple withdrawal of a small amount of poisonous blood does not necessarily diminish the poisonous properties of the blood which remains; and since it is now well established that the symptoms of eclampsia are due to toxemia, or general poisoning of the blood, it is evident that the most rational thing to be done is to diminish the amount of poison in the blood. How may this be done? A practical method has been the adoption of a milk diet for some weeks prior to the confinement. By this means the blood will be largely diluted; and if the eclampsia appears without premonitory symptoms, the blood may be diluted by making the patient drink copiously of water, by means of large salt water enemata, and in extreme cases, even by subcutaneous injection of a normal saline solution. The blood may be washed by adding to this such eliminative as will subtract the watery portion of the blood—as vigorous perspiration, purgation by means of the salines or even croton oil in extreme cases, and increase of kidney activity.

Elimination through the skin is the best of all the measures mentioned, through the bowels ranks next in value, and by way of the kidneys least available, owing to the fact that about the only way in which kidney

activity can be stimulated directly, except by diluting the blood and thus increasing the blood pressure, is by means of diuretics which are in themselves more or less toxic. Faradism, applied over the region of the kidneys and the solar plexus or abdominal sympathetic ganglia, is a valuable means of stimulating renal activity. Blood-letting will probably seldom be required in eclampsia when the measures mentioned can be made available. A decided objection to blood letting is the fact that not infrequently eclampsia occurs in patients who are already anemic and exhausted by prolonged labor, so that a depletion of the blood is decidedly undesirable. One is never certain, also, in cases of this sort, that the labor itself may not be followed by profuse hemorrhage, which, added to the depletion already effected by the blood letting, might be fatal in its consequences, though insufficient to cause death by itself. —*Modern Medicine.*

Erysipelas as a Curative Agent in the Paraplegia of Pott's Disease.—In a report of the proceedings of the French Congress of Surgery recently held in Lyons, published in the *Journal des Praticiens* for October 27, there is an account of a case observed by M. Loison, in M. Poncet's service, of a young girl who for three years had had kyphosis of the dorsal region due to Pott's disease, also a slough over the sacrum (N. Y. *Med. Jour.*). She was treated by the application of a Bonnet's splint, when an extensive outbreak of erysipelas attacked her, followed by three abscesses. After this she recovered the power of moving her toes. There was then a second attack of erysipelas, and this was followed by additional improvement. After a third attack of erysipelas her condition was so much better that she could walk when her trunk was maintained by means of a corset. The improvement grew more and more decided, and at the time of the report the woman was able to do hard work. The author said that he mentioned this case not only as a clinical curiosity, but also to show the curability of paraplegia due to Pott's disease by simple measures. The coincidence of the erysipelas and the favorable course of the vertebral disease should not be ignored, he added, however inexplicable it might be.

Treatment of Diffuse Purulent Peritonitis.—Herhold (*Deut. Med. Woch.*) relates two cases in which recovery ensued after incision and drainage:

1. A patient, aged 54, was admitted with a strangulated hernia. An empty hernial sac was found on the right side and a piece of omentum and intestine on the left. After the intestine slipped back into the omentum discolored and ill-smelling fluid escaped. The condition of the patient did not improve, and six days later the abdomen was opened along the outer edge of the left rectus muscle; 300 c.c. of stinking pus escaped. The intestines were felt to be glued together. The patient recovered.

2. A boy, aged 8, was admitted with signs of peritonitis with effusion. Later he became desperately ill. The abdomen was incised and drained, 250 c.c. of stinking pus escaping. The finger introduced into the wound felt coils of intestine glued together. Rapid improvement and ultimate recovery ensued. The cause of the peritonitis was not clear in either case. The author then gives the statistics of published cases of diffuse purulent peritonitis treated by incision. In the Berlin Charite 25 such cases have occurred, and of these 5 recovered, but the hopeless nature of the cases accounts for this small number: in 2 the peritonitis was due to perforation in enteric fever, in 9 to long continued obstruction, in 4 to perforating intestinal ulcers, in 1 to a perforating gastric ulcer, and in 9 no cause was known. Purulent peritonitis which is part of a general sepsis is hopeless.—*Brit. Med. Jour.*

NOTES AND ITEMS

Special.

We desire to secure a copy of the MEDICAL REVIEW of June 15, 1889. Anyone sending us same, we will remit to them $1.00. Address,

"EDITOR," Personal,
914 Locust Street,
St. Louis, Mo.

Dr. Samuel E. Milliken has been appointed Surgeon to the Randall's Island Hospitals, New York.

Grand River Medical Society.—The nineteenth semi annual meeting of the Grand River Medical Society will be held on Thursday and Friday, December 6 and 7, 1894, at Brookfield, Mo.

A large number of very interesting papers have been promised, and this meeting at Brookfield will no doubt be one of the best society meetings held in North Missouri. ROBT. HALEY, President.

E. S. WENGER, Secretary, Brookfield, Mo.

The President of the French Republic visited the Pasteur Institute on October 23 and presented Dr. Roux with the Cross of Commander of the Legion of Honor. M. Roux, in thanking the President for the honor, gracefully accorded to Loeffler and Behring their rightful place in the series of discoveries which finally led to that of the serotherapy. After visiting the Institut Pasteur the President went to the Trousseau Hospital, where he donned the regulation blue blouse. His hesitation to do so was vanquished when it was represented to him that this omission would entail danger not only on himself, but on those who came near him. M. Moizard and his two internes

M. Casimir-Perier presented Madame Gigot, the superintendent of the diphtheria pavilion, with the "epidemic gold medal." Madame Daussoire, head nurse at the Children's Hospital, received the "Palmes Academiques;" the same decoration was accorded to M. Martin, preparateur at the Pasteur Institute, and M. Chatillon, interne of the Children's Hospital.

The Versailles Municipal Council has voted £40 to the Pasteur Institute Antidiphtheria Fund. The subscriptions gathered at Havre will soon reach a sum sufficient to defray the expenses of a Havre service for preparing the serum.

M. Poincare, Minister of Finance, has, in concert with General Mercier, War Minister, authorized the representatives of the Pasteur Institute to choose among the army horses no longer fit for service those suitable for producing the antidiphtheric serum. Sixteen out of twenty nine have been chosen. The price will be fixed according to the average price fetched by the remainder.

The Austrian Government has ordered a sufficient supply of Behring's diphtheria antitoxin for its effect to be thoroughly tested in all the public hospitals in Vienna. The remedy is already in use in the St. Anne's Children's Hospital and the Kronprinz Rudolph Hospital.

In Dresden a supply has been obtained for the children's hospital at the public expense. The Municipality has voted 4,000 marks (£200) for the purpose.

In Italy the remedy is also being tried. In accordance with a Ministerial decree, only the serum prepared by Meister, Lucius and Brunning of Frankfort, and that prepared by M. Roux are at present admitted into Italy.—*British Medical Journal.*

Dr. Bela F. Ward, of Troy, N. Y., under date of November 18, 1894, writes as follows: "I had a patient, an epileptic. Attacks would occur as often as three or four times a week. He had been subject to them since the age of fourteen years. While attending him I prescribed Neurosine and ordered him to continue its use. He has not had an attack since September, 1893.

Dr. Koch on the Cholera.—At the congress of the Society for the Promotion of Public Health at Magdeburg on Friday last Professor Koch made an interesting and important speech on the subject of cholera, as to the cause of which the North German scientists have long differed from their South German colleagues. This difference of opinion, said Dr. Koch, could now be considered as a thing of the past, and he dared to think that the congress marked the beginning of a new era in the history of cholera. He went on to say:

"We all agree that a certain parasite is the cause of cholera. But we must also take into consideration a great number of secondary causes, such as the local, case of the disease. Opinions only differ now as to the nature of these secondary causes, and I must to my sorrow acknowledge that on this subject we know comparatively little; and that little is unsatisfactory. I feel that we are standing before many an obscure and unsolved question, but still I hope that we shall be equal to our task. * * * The measures which have been taken to combat the infection have been, I do not hesitate to say, successful. Two years ago I should not have had the courage to make such a statement in public, although it was then also my personal opinion. Only in those cases where we began too late has there been a regular epidemic of cholera. The assertion that without such measures the cholera would have been of such a mild description as it has been this year is untenable. If it had been the first or even the second year it might have been argued that the conditions were unfavorable for an outbreak. But this is the third year, and we see that whereas our neighbors have suffered greatly, we have been comparatively free. This assertion is as unjustified as the one which I have often heard lately, that the cholera has lost strength and is not the real and terrible Asiatic cholera. I should like to have sent the supporter of this theory to the village of Niedzwedzen, on the Russian frontier, where it happened that the real character of the epidemic was not at first recognized. In this village more than 13 per cent of the population fell victims to the disease. The epidemic in this case was ten times as strong as that in Hamburg.

"I think it is the more necessary to emphasize the efficacy of the measures we have adopted, as we may certainly count upon more cholera years. Our experience shows us that it has generally lasted ten years before the cholera has disappeared from Europe. * * * It is more or less a matter of indifference to us what precautionary measures are taken elsewhere if we can protect ourselves at home. I do not attach great value, therefore, to international arrangements. It would be much better if each State would, like Germany, keep the cholera at a distance by learning how to meet its attacks. That would be the best international protection."—*Pop. Med. Monthly.*

FLUID EXTRACT OF KOLA is a valuable tonic stimulant, indicated in nervous depression. Unfortunately, however, it is acrid and bitter in taste, and taken in this form is decidedly unpalatable. Messrs. Frederick Stearns & Co., of Detroit, Mich., have, after considerable experimental investigation, devised a compound which they call "Stearns' Kola Cordial," which is one-fourth the strength of the Fluid Extract, each fluidounce representing 120 grains of Kola (Sterculia Acuminata), but is free from the acrid bitterness of the drug. It possesses the agreeable odor and characteristic taste of true Kola, and as a stimulant is prompt and active.

Physicians desiring to test this new product will be forwarded sufficient samples for clinical test on request.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Six Cases of Tumors.

CASE I.—In the latter part of October, I was called to see a grey gelding, seven years old, who had suffered from a severe attack of febra pyogenica in the early summer, from which he had never entirely recovered. He was in fair condition, but had no appetite, and when driven had paroxysms of violent and distressing coughing. On inquiry, I found that the owner, being unable to find a veterinarian at the place where he was spending the summer, had treated the animal himself. The symptoms that the horse had exhibited, were described to me, and I had no doubt that he had had an attack of febra pyogenica, which had run its usual course. I examined the horse and found the temperature to be 102° F., the mucous membranes pale and the pulse weak. The respiration was like that of a horse suffering from heaves, but not accelerated. When made to cough, a small amount of tenacious mucous was expelled. The skin and tissues of the intermaxillary space were thickened from the effect of the abscesses. There was no nasal discharge, except when coughing. Examination of the lungs by Dr. Peters showed a large area of dullness in the right lung, and a small area in the left. Taking into consideration the history of the case, the constant elevation of temperature, and the long time that the cough had been present, three months, the diagnosis was made that small abscesses had formed in the lungs by metastasis. That the abscesses had set up chronic interstitial pneumonia, which had encysted the abscesses and caused the consolidation of the lung tissue. I told the owner that I did not think that the horse would ever recover from the cough, but that he might live for a long time. As the horse was young and much valued, I attempted treatment at the owner's request. After a month of tonic and stimulating treatment, great attention being given to the food, the condition of the horse was very good, with the exception that the cough was just as bad, and that the temperature was constantly elevated from 101⅘° to 102° F. In the latter part of December, it being impossible to drive the horse because of his cough, by my advice he was killed.

The post-mortem examination showed in the right lung two large, round, fibrous tumors, very dense and hard, and about five inches in diameter. In the left lung, one small tumor of the same character, but only about two inches in diameter. On section these tumors, which were sharply defined from the healthy lung tissue, proved to be due to an hypertrophy of the interstitial tissue of the lung. The bronchial tubes traversing these tumors were pressed upon by the increased interstitial tissue, so that on section they resembled narrow slits in the lung tissue. This pressure on the bronchial tubes had caused a local chronic bronchitis which accounted for the cough. Dr. Whitney, of the Harvard Medical School, made a microscopical examination of portions of the diseased lung, which confirmed my diagnosis. With the exception of the lungs the organs were all normal. The thickening in the intermaxillary space had entirely disappeared under the influence of a blister.

CASE II.—A large St. Bernard dog, very much emaciated, and at the time suffering from acute gastritis. The attack of gastritis was cured, but the stomach remained very weak, and unless very carefully fed, all food would be thrown up. A week or two afterwards a complete atrophy of the muscles on the left side of the head took place, to such an extent that nothing but the skin covered the bone, the eye sunk in and the appearance of the dog was exceedingly unpleasant. Mastication was accomplished with great difficulty, as only one side of the jaw was strong enough. Later, swallowing became very difficult and this was found on examination to be due to a collection of swellings in the region of the throat. Other swellings appeared in the axilla and groin, and the dog went lame. I killed him, and at the post-mortem found, besides the complete atrophy of the muscles of the left side of the head, diffuse lymphomata of the entire body. I can best describe the condition by saying that every lymphatic gland in the body was enlarged, varying from a pea to an egg in size. The largest of these tumors were found in the throat, axilla, groin and about the thoracic and abdominal viscera. This accounted for the difficulty in swallowing, lameness and difficulty of retaining food.

The atrophy of the muscles of the side of the head was probably caused by the pressure of some of the tumors interfering with the nutrition of the part. The spleen besides being the seat of several distinct lymphomata, was so greatly enlarged that it weighed eighteen ounces.

CASE III.—An aged white horse was given to me. He had an enormous melantoric tumor involving the penis and sheath. This hung down eight inches, and when the horse trotted, flapped from side to side. I cast the horse and turned him on his back; after some difficulty I found the meatus urinarius, hidden in the mass of the tumor, and passed the catheter. I then cut down into the catheter just under the arch of the ischium, and laying open the urethra for three inches, sewed its edges to those of the divided skin. By three rapid cuts, I dissected out the entire penis and sheath in front of the opening, leaving only the stalk of the penis,

was cold and dead. The wound was two months in healing, and the horse is now working.

CASE IV.—A favorite horse of my own had a polypoid wart, as large as a man's fist, on the end of the penis, near the meatus. I cast him and removed it, and on microscopical examination it was at first pronounced to be cancer, but later the diagnosis of non malignant papillary fibroma was made. Within a year I was obliged to remove the growth four times, but finally I succeeded in extricating it,and the horse, previously always thin, is now in fine condition.

CASE V.—I was called to see a spaniel dog who had a large soft tumor involving the base of the tail and the parts around the anus. The tumor was so large as to seriously deform the dog. I etherized the dog and removed the growth which proved to be a lipoma. Although I had to dissect the skin off the tail for three-quarters of the way around, yet a complete recovery without any scar resulted.

CASE VI.—A bay horse, driven in a milk wagon, started out from the barn at an early hour and never drove better. After being driven for an hour and a half he suddenly fell in the shafts. He was unharnessed and taken to a stable where I found him in a very excited state, unable to control his motions, staggering, and falling with legs spread out, getting up and going through the some performance. He made several attempts to drink but could not swallow. He died eight hours after in acute frenzy.

Post-mortem examination showed a tumor of the pituitary body of the brain a little larger than a pigeon's egg. This was situated just behind the optic chiasma. The horse had never shown any symptoms of brain trouble before, and had been used by the same person several years.—Daniel D. Lee, M.D.V., Instructor in Anatomy, Veterinary School of Harvard University, in *Veterinary Magazine.*

Glycosuria Produced Experimentally in Animals by Physical Excitations.

Physiologists have produced hyperglycemia, glycosuria and even fatal diabetes mellitus, by various processes such as irritation of the floor of the fourth ventricle (Cl. Bernard), of different portions of the brain, spinal cord, spinal and sympathetic nerves, (Schiff, Pavy, Aladoff and Cyon, Eckhard Klebs and Munch, Filehne Vulpian, etc.) intoxication by means of substances too numerous to enumerate, but foremost among which phlorizidine may be mentioned (Von Mering), traumatism of the skull, and excision of the pancreas (Von Mering and Minowski, Lepine and Heden, A. Chanveau and Kauffman).

Glycosuria may also appear spontaneously in animals and cause death, but in such cases the etiology of the glycosuria may appear under the influence of numerous causes; as in the lesions of the nervous system, the liver and the pancreas; traumatism, intoxications or poisoning and disorder of nutrition. Without discussing the opinions of theorists on diabetes, who have proposed many classifications of this disease, one that is generally admitted is that glucose may be detected in the urine of man after certain mental disturbances as, for instance, on the eve of a dreaded surgical operation, after great worry, the loss of a fortune by ruined financiers, whose hygienic state is generally favorable to the disease. In short, the influence of any violent moral commotion, of variable duration, predisposes the victims to this affection, and without appreciable prodromata, glycosaria takes root and often completes the destruction inaugurated by anxiety.

If analogous instances have been observed in animals, I have been unable to find any reports in the literature of the subject. For this reason I consider the following observation, which I made in the course of researches on diabetes mellitus, as sufficiently interesting to lay it before the Academy.

EXPERIMENT.—A female dog, aged about four years, was placed under observation while at liberty with other dogs utilized in the laboratory of the Institute. Its urine, tested repeatedly for sugar, for several successive days, gave no reaction with the cupio-potassic, or Fehling's fluid, and when decolorized and examined with the polariscope there was no deviation of light. When this dog, which is of an affectionate, timid and jealous nature, is placed in its cage alone, it whines continually and when it sees the other dogs enjoying liberty its cries become unbearable.

When the dog was shut up on the first occasion, its urine gave no reaction for three days, but on the evening of the fourth day it contained 5.55 per 1,000 of glucose as demonstrated by Fehling's fluid and the polariscope. The glycosuria persisted as long as the captivity, but on the day after the dog was set free, the sugar disappeared.

The same experiment was repeated six times on this dog with the same results viz., that after four, three and even two days of incarceration, glycosuria appeared while it disappeared (after one, two or three days) when the prisoner was allowed to enjoy liberty and the company of other dogs. The quantity of glucose was 6.66 in one of the experiments, 8.88 in another, and in a third it was 25 per thousand, a very high ratio compared with that observed generally in animals affected with diabetes.

Glycosuria did not occur when the animal was shut in with a companion. No comparison was made with regard to the quantity of urine, drink and food.

The experiment tried with another female dog of seemingly apathetic nature gave negative results.

This fact demonstrates that some animals, like man, are susceptible of being affected with glycosuria under

deduction which may be drawn from this fact is that the experimenters who attempt to produce diabetic mellitus in animals by operation, should take the emotional factor into consideration, and to remember that vivisection may sometimes affect the animal as much in its physical entity as in its material body.

Again, enlightened by this observation, we may be able to ascribe some cases of apparently spontaneous diabetes in the dog, ape, horse, etc., to the influence of various physical causes, as changes of condition or residence, the loss of a dear companion or beloved master, captivity, etc.

Certain philosophical considerations may also be deduced from the existence of this common link between the inferior order of emotions of man, and those of the lower animals, but those interested in moral or intellectual problems need not be solicited to reflect upon this aspect of the subject.—Paul Gibier, M.D., Director of the New York Pasteur Institute, in *American Veterinary Review*.

Camphor as an Anaphrodisiac.

For chronic estrum in mares, camphor has frequently been recommended. A convenient way of giving it is to moisten it with ether or alcohol, pulverize finely and mix with althea mucilage and water to form balls. In this way five drachms can be given daily.

Local Anesthetic.

The following has been recommended for producing local anesthesia, and, since it is really very good, it will bear printing again. Chloroform, 10 parts; ether, 15 parts; menthol, 1 part. Directions: Spray the seat of operation for one minute before making the incision.

MALTINE.—A well-known writer happily characterizes the dual action of Maltine with Coca Wine in the following graphic manner: "The coca boosts the patient and the Maltine furnishes the peg that prevents him from slipping back." Other tonics afford only temporary stimulation with nothing to prevent the subsequent reaction.

W. P. WALKER, M.D., of Mason City, Ill., says: "I have used Salo-Sedatus with especial benefit in one case of severe neuralgia, and shall test it more thoroughly."

N. M. CARTER, M.D., of Battle Creek, Mich., writes to the Dios Chemical Co., St. Louis, Mo., as follows: "I have received sample of Sennine and found it an excellent remedy in several cases where others failed.

HYDROLEINE is found on the shelf of every reliable dispensing druggist. For brain workers it is simply invaluable. It supplies the true brain food and is more easily assimilated by the digestive organs than any other emulsion. It is daily being prescribed in phthisis, tuberculosis, catarrh, cough, scrofula, chlorosis and general debility. The C. M. Crittenton Company, of New York City, are the manufacturers. They will send samples on application.

advertisement of this preparation. It is very attractive to look at, and not at all unpleasant to the taste, and the manufacturers claim that one teaspoonful of it represents four times that amount of the best cod liver oil. Some of the most eminent members of the profession are prescribing this preparation which is pretty good evidence of its merits.

DR. ALDEN LOOMIS, of Louisville, Ky., says: "If a lady comes to you with a constant and distressing leucorrhea, advise the use of Helonia Tablets. They can be had at any first-class drug store, and full directions for using them accompany each box." These tablets are manufactured by the North Chemical Co., and their perfect reliability can be depended on.

VALUABLE UTERINE TONIC.—J. B. Davis, M.D., of Marshall, Mo., writes as follows to the Dios Chemical Co., St. Louis, Mo.: "I desire to state that in my extensive experience with that valuable uterine tonic, it has uniformly given good satisfaction. Dioviburnia is a most excellent preparation—decidedly the best uterine tonic I have any knowledge of, and I can conscientiously recommend it to my professional brethren as well worthy of a fair trial.

THE TREATMENT OF ANEMIA.—For the treatment of chlorosis, anemia, rickets, amenorrhea and all that class of ailments in which there is a deficiency of red blood corpuscles Gude's pepto-mangan seems to be indicated from a rational point of view. Full notes on the therapeutics of this remedy may be obtained from the American agents, the M. J. Breitenbach Co., 56 Warren Street, New York.

RHEUMATISM, GOUT, ETC.—Dr. G. E. Crawford, of Cedar Rapids, Iowa, says: "As an adjuvant to the Salicylate of Soda, as well as an excellent vehicle for the administration of that disagreeable drug, I use an extract of Triticum Repens, prepared by the Searle & Hereth Co., called 'Tritica,' which I regard as much better than the ordinary fluid extract.

℞ Sodæ Salicylatis, - - - ℥vss.
Tritica (S. & H.),
Aquæ puræ, - - - - aa fl℥ij.
M.

Sig. A teaspoonful every two hours in water. Prolong the interval as the acute symptoms subside and pain is relieved.

I have found the above combination of great value, not only in ordinary cases of acute and sub-acute rheumatism, but in a large class of cases of renal insufficiency, with rheumatic and gouty diathesis, etc."

F. L. SIM, M.D., the Veteran Editor of the Memphis *Medical Monthly*, under date of October 22, 1894, writes as follows to the Antikamnia Chemical Co., St. Louis, Mo.:

"Your kind favor of the 20 inst. received this evening, after my return from Ship Island, Miss.

"The Antikamnia and Codeine Tablets which reached me also, were exactly what I wanted. Having been exposed to the Gulf breeze all day, I returned suffering intensely with gastralgia and pleurodynia. One of the tablets gave me relief, and I have since had my supper and feel quite comfortable.

"In the fact that your preparation, Antikamnia, has no depressing effect upon the cardiac force, you have much for congratulation, and the field for its usefulness may be viewed like the horizon—the nearer you approach it the wider its recognized extent."

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ORIGINAL ARTICLES

The Indications for Operations in Appendicitis.

BY J. W. LONG, M.D., RICHMOND, VA.,

Professor of Diseases of Women and Children in the Medical College of Virginia; Fellow of the American Association of Obstetricians and Gynecologists; the Southern Surgical and Gynecological Association; the Richmond Academy of Medicine; etc.

Read before the Virginia State Medical Society, October 24, 1894, in Richmond.

As the value of anyone's opinion must be estimated from the standpoint of his *individual bias* on the particular subject under discussion, I will preface what I purpose saying in regard to the indications for operation by stating my "creed," *i. e*, what I believe *up to date;* by the time this discussion is over, my "creed" may be largely augmented, or knocked entirely "out of the ring."

1. I accept the *post-mortem findings*, that a very large per cent (about one-third) of all adults have had at some time in their lives appendicitis.

2. I am convinced that *practically every case* of inflammation in the region of the head of the colon is appendicitis. The exceptions to this rule are more than offset by the number of cases of appendicitis developing in anomalous positions, even in the left side of the abdomen. The exceptions are usually *stercoral typhlitis.*

3. It is probably true that a *large majority* of the attacks (certainly three-fourths) *recover without surgical interference.*

4. It appears from the testimony of practitioners that this disease is oftener overlooked than any other surgical affection. In proof of this, we often hear first-class men, who have been practicing ten, twenty and thirty years, say they never saw a case of appendicitis.

5. I believe finally, that perforation or suppurative appendicitis is *one of the most fatal maladies* to which human flesh is heir.

In view of these facts it is obviously of great importance that we formulate some rules which may guide us in determining the questions of surgical interference. To do this intelligently we must classify the cases. The classification which I regard as the simplest and best is as follows:

I. Catarrhal or mild cases.
II. Perforative cases with limiting adhesions.
III. Perforation without limiting adhesions.
IV. Chronic cases.

The *first* class embraces the *large majority of cases* and is the kind that get well under medical treatment.

The *second* class constitutes by far the *larger proportion of surgical cases.* In these cases the appendix is perforated and the intestinal contents escape into the peritoneal cavity. But fortunately, Nature, ever on the alert, throws out peritoneal adhesions in advance of perforation, thus limiting and circumscribing the resulting infection to a comparatively small portion of the peritoneum. Do not forget, however, that these purulent collections are almost *always within the peritoneal cavity.* The term "perforative" does not quite cover this variety, for in highly infectious cases, the pathogenic germs, and even the intestinal gases, may penetrate the inflamed softened walls of the appendix and thus set up a suppurative peritonitis without any perforation being present. Indeed the vitality of the appendix is so low owing to the *blood supply* being limited to a single small artery which runs along the free border of the meso-appendix, that an active inflammation not infrequently causes *gangrene* of the entire organ before an ulcer could possibly have time to perforate its walls. I have operated eight times in cases where perforation had occurred and the pus was more or less circumscribed by limiting adhesions. I operated on one patient whose appendix was distended to the bursting point, the walls being so thin the pus could be seen through them in several places. In this case adhesions had already bound the appendix, coils of intestines and the posterior parietal peritoneum together; but no perforation existed. All of these cases recovered.

Perforation without limiting adhesions is exceedingly fatal; always without operation, and usually with operation. The only two cases I have operated on in this condition died. The condition of the appendix in the first one of these is beautifully shown in Fig. 1.

CASE I.—This case occurred in the person of a little girl not quite nine years old. The perforation (a) can be seen in the middle of the meso-appendicular border.

The peritoneal cavity was at least one-third full of horribly stinking pus.

Case II.—The other case was that of a stout young Jew who was *in articulo mortis* when I operated. Fig. 2 shows the appendix from this case laid open. The walls were greatly thickened, as can be seen, and the whole organ was gangrenous. The perforation (a) was exactly at the base of the appendix, in fact encroached upon the cecum.

Fig. 1

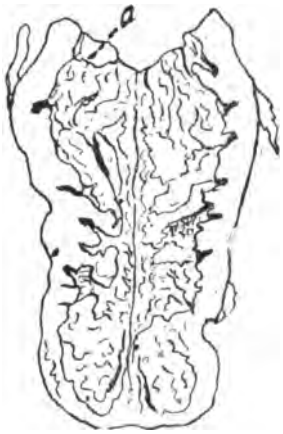

Fig. 2.

A recent report from Johns Hopkins Hospital gives eight operations for this variety, with eight deaths. Dr. Christian Fenger, of Chicago, operated eleven times for this same condition with ten deaths. These figures certainly speak in trumpet tones for earlier operation; therefore, I have ventured to formulate the following rules by which I am largely guided. Of course they are not intended to be fixed and irrevocable, but merely suggestive.

Indications.

1. I set down as a leading indication for operation the *continuance of the symptoms*. The history of an ordinary case is that a patient is taken with cramping and colicy pains in the abdomen. Vomiting often relieves the pains and cramps, but the next day the right iliac region will be tender, painful and rigid. Febrile movement will be more or less marked. Even though these symptoms be mild, if they *continue till the second or third day* I should regard the case as a suitable one for operation. The following case is illustrative.

Case III.—Frank H., a farmer, had an attack of cramping in the bowels on Friday; by Monday he was out, and Tuesday cut wheat all day. Tuesday night he was taken with severe cramp which "bent him double." I was asked by Dr. W. A. Fox, of Randleman, N. C., to see the man on Friday, June 15, 1894. The symptoms were no worse but the fact of their *continuance for sixty-four hours* after the cramping on Tuesday night determined me to operate at once. I removed the greatly distended appendix which I show you (Fig. III) and

Fig. III.

which a sneeze or rising up in bed might have ruptured. There was no perforation present, but the pus could be seen through the thinned walls, and peritoneal adhesions were already formed, causing considerable trouble in separating the distended appendix. The appendix measured three inches in circumference *after* it had been laid open and the pus evacuated. This patient made a prompt recovery. In speaking of the continu-

Adherent omentum removed in the Case of Frank H.

Fig. IV

ance of the symptoms I would not have it understood that I set any *precise time limit* (as the second or third day) for many cases would be in a hopeless condition before this time. Dr. Jno. A. Wyeth operated on a case thirteen hours after the initial symptoms, and found the appendix gangrenous.

2. Another indication of great importance is *the severity of the symptoms*. I cannot be persuaded that even the rashest man would open the abdomen in those very mild cases that show signs of improvement in twenty-four or forty-eight hours. While in those fulminate forms where perforation is evident, as shown by great severity of the symptoms we cannot operate too early. In the worst of these cases we should not even wait till morning if called in the night. Even in the less severe forms where the symptoms are *increasing in*

increasing severity of the symptoms and you have *positive unmistakable evidence* of the absolute necessity for surgical interference. These two indications have often determined me to operate. I quote from my recorded cases.

CASE IV.—Miss L. G., aged 24, waked with colic on the morning of July 13, 1892. She was able to attend to her usual duties till noon, when she went to bed. Next day the family physician saw her, at which time she had fever, frequent pulse, ghastly pallor, and a tender spot in the ilio cecal region. I saw her Friday evening, the 15th, and urged an operation if she was no better by the next day. Saturday came, but with it no relief; the symptoms *continued* and were *increasing* in severity. Her parents consented to an operation which, however, was unavoidably delayed till early Monday morning, when I removed the gangrenous appendix shown in Fig. V. The perforation is clearly indicated by the artist, also the apple pip and enterolith found protruding through the opening in the appendix. This patient made an excellent recovery.

Fig. V.

3. A third indication, and one that I trust I shall never fail to act upon, is a *second attack of cramp and colic* or a *sudden augmentation of the pain and tenderness* in the right iliac region *during the course of an ordinary case of appendicitis.* This renewal of the "appendicular colic" generally means perforation, or its equivalent—involvement of the peritoneum by infection through the as yet unbroken walls of the appendix. Of course I do not now refer to recurring attacks of appendicitis, but solely to the renewal or sudden exacerbation of the symptoms *during the course of an attack.* Perforation rarely, if ever, occurs at the first onset of the attack. Gangrene may develop at once, exactly as it does in an acutely strangulated bowel, but this cannot be said to be the usual course. In most instances both perforation and gangrene are preceded by premonitory symptoms and fever. After the first twelve, twenty-four or forty-eight hours there is a *lull in the symptoms*, the patient believing himself better. I have known patients in this condition to get up and go about their business, even to take a journey. This *lull* lasts from one to three days, when the appendicular colic returns with greater intensity, the fixed tenderness, pain and muscular rigidity are more pronounced, and the patient is readily seen to be much worse. In proof of this being a common picture, I appeal to the experience of those who are accustomed to see these cases from the beginning—the general practitioner. I operated on a man ten days ago who gave exactly this history.

CASE V.—This case occurred in the practice of Dr. Hillsman, of this city. A man, a negro, H. M., aged 34, was taken on Sunday afternoon with cramps and pains in the abdomen. Monday afternoon he was able to go to his work, black-smithing. Monday night he was again taken with cramps and pains. Dr. Hillsman was called and found the man with considerable fever, which continued, rang from 100 to 103°. On Saturday, the thirteenth day after the initial symptoms, my friend Prof. C. A. Blanton was called in consultation and confirmed Dr. Hillsmann's diagnosis of appendicitis. Prof. Blanton suggested that I be added to the consultation to which Dr. Hillsman readily agreed. I saw the patient the next day and strongly urged operation, which we did on Monday at the Hospital of the Medical College of Virginia. The man is convalescing rapidly.

Now I have no doubt that perforation took place on Monday night *at the time of the recurrence* of the symptoms. This renewal of the symptoms is, according to my experience, clear evidence of perforation either actually present or impending and is the signal for prompt surgical interference. This point has never been sufficiently emphasized, but I regard it as an indication of *great value*, and can cite a large number of cases to show its worth. The question might very pertinently be asked just here, "Why not operate before the recurrence of the symptom?" Ah! there's the rub! If it could be shown that a majority or even a respectable minority of the total number of cases of appendicitis are subject to a recurrence immediately following the lull which so often succeeds the onset of the attack, then it would certainly be proper to operate; but when we face the fact that *more than three fourths* of the cases do not have the recurrence but get well without operation, we are forced to the conclusion that it is best to follow the conservative course.

4. It may be observed that so far I have not said much about the *individual symptoms* and their value as indicating an operation. I prefer to regard the picture as a whole rather than to dwell upon any one symptom, but it is well to investigate them here.

(*a*) The *appendicular colic* is the initial symptom in most cases and is of great value in estimating the grav-

ity of a case. This symptom has already been referred to.

(*b*) The *fixed pain*, usually in the cecal region, is also of great value in determining upon an operation.

(*c*) *Tenderness* is the most valuable single symptom, and if persistent or increasing is a clear indication for operation.

(*d*) *Muscular rigidity* of the right side stands next in value to tenderness. It *always* means peritoneal involvement, therefore may be put down as favoring surgical interference.

(*e*) *Obstinate constipation*, when not due to opium means, paresis of the bowels due to invasion of the peritoneum and is an argument in favor of operation.

(*f*) *Tympany*, especially when associated with vomiting, generally means that you ought to have operated before.

(*g*) The *thermometer* is, as a rule, of little value; yet while the *absence* of a rise of temperature is no assurance of safety, its *presence* does indicate trouble.

5. Still another very clear indication for operation is *recurring attacks*. I feel sure that most fatal cases are preceded by mild attacks, sometimes one, sometimes many. The most distressing death I ever saw from this disease occurred in the person of a physician, and was preceded at intervals of a year by two attacks which he thought were kidney colic. The third case referred to in this paper had had numerous spells of colic within the last three or four years, and at operation I discovered in the appendix a *plate of lime salts as hard as bone* which must have been many months forming. This plate was about the size and shape of an almond kernel. Still I do not regard simply the repetition of attacks as an absolute indication for an operation, for I treated one patient who had twenty or thirty attacks and who recovered without an operation and for six years has not had an attack. His mother gave a similar history.

However, I should feel justified in operating in either of the following events: (*a*) if recently the attacks had been very numerous; (*b*) if the attacks were increasing in frequency and severity; (*c*) if any recent attack had been sufficiently severe to jeopardize the life of the patient.

6. The last indication to which I shall ask your attention is *chronic appendicitis*. This condition is characterized by the *persistence of local symptoms* and the *presence of an enlarged tender appendix*.

It is a fact that in the average subject the *normal* appendix is more easily palpated than the normal Fallopian tube; hence it may be readily understood that a thickened enlarged appendix may be easily *palpated*. I do not know of any physical sign easier to make out than to roll an enlarged tender appendix under the finger tips.

Now I regard this condition, whether it is, or is not, accompanied by relapsing attacks, as unmistakable evidence of the necessity of operating. The following case illustrates this variety and the necessity of operative interference.

Case VI.—Miss L. W., aged 31, comes with a tale of many woes. In early life she was afflicted with spinal curvature. Some three years ago after a prolonged attendance upon an invalid father, she found that she could not pass her water. After vain attempts she resorted to the catheter and this was repeated until the *catheter habit* became fixed upon her. Her kidneys too became erratic and she frequently would go *three or four days without excreting any urine*. And to make the matter worse, she is a mild *opium habitue*, owing, doubtless, to her continued suffering. Two years ago she was chloroformed twice by a distinguished Baltimore surgeon for the purpose of making out a diagnosis, but he did nothing further. In March, 1894, I was asked to see the case by Dr. D. A. Kuyk. The abdomen and pelvis were so sensitive that it was necessary to again chloroform her, besides I wished to explore her bladder and ureters by means of the cystoscope and ureteral catheters. I found nothing abnormal in the pelvis; nor could anything be discovered wrong in the abdomen except a *distinctly enlarged and thickened appendix*. By

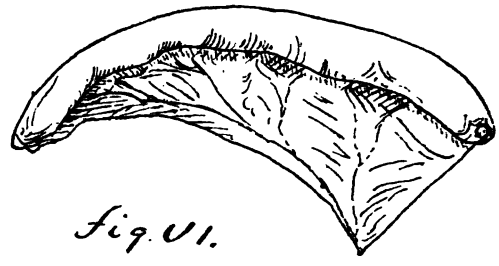

Fig. VI.

this time the patient showed signs of not standing the chloroform well, so it was withdrawn and the bladder exploration postponed. After the chloroform had been withdrawn, certainly as long as four or five minutes, the respiration suddenly stopped and the patient became very cyanotic. The heart kept going feebly but regularly. After active measures she was resuscitated. The diagnosis was *chronic appendicitis* and operation was advised. The result of the examination was to make the patient worse. After considerable delay she was preparing to come into the hospital when she fell down stairs hurting herself badly. General peritoneal tenderness, pain, and tympany developed which came near ending her life. By the last of September she was able to enter the hospital, and on October 29, in the presence of the class of the Medical College of Virginia, I removed the appendix by the lateral incision. This structure was found thickened, inflamed, full of feces and solid bodies which proved to be enteroliths. The appendix and meso-appendix were ligated and cut off. The stump was inverted and buried by Lembert sutures, the bowel dropped and the abdomen closed by three tiers of buried sutures. The patient stood the anesthesia (ether) remarkably well and is making an excellent recovery. Fig. VI shows the appendix and also gives an excellent view of the blood supply to the appendix, the

appendix.

My own conclusions then are:

1. That every case of appendicitis should be regarded as a *surgical case.*

2. That in every case of appendicitis, even those that present *suspicious symptoms*, a competent abdominal surgeon should be called to confer with the attending physician in the management of the case; and further, this association of physician and surgeon should commence *with the attack.*

3. That it is *not* proper to operate *simply because a patient* has appendicitis.

4. That if a case presents *severe symptoms* from the first it should be operated upon.

5. That if the symptoms *continue* in either a severe or mild form, except when rapidly *decreasing*, an operation is indicated.

6. That a *recurrence of the symptoms* after a lull is an *absolute* indication for immediate operation.

7. That the *prominence* or *persistence* of either one of several symptoms, especially *deep seated tenderness* in the right iliac fossa, is sufficient evidence to warrant an operation; yet the *whole group* of symptoms is a more reliable guide.

8. That the gravity of this disease warrants us in making an exploratory incision in even *doubtful cases*, when the symptoms are severe or persistent.

9. That when once the surgeon is convinced of the necessity of an operation he should proceed *at once*, counting delay as specially dangerous.

10. That in *recurring and chronic* cases the determination to operate should be based on the patient's general condition, the frequency and severity of the attacks, and the persistence of local symptoms especially those shown by deep palpation.

11. That while the operation for appendicitis *may be* as simple as opening an abscess, yet it is one that often requires *rare good judgment* and should be undertaken only by a skilled surgeon.

Since writing this paper I have operated on another case in which the appexdix was infected from a pyosalpinx.

Bacteriologic Diagnosis of Diphtheria.

BY GIVEN CAMPBELL, M.D., ST LOUIS,

Professor of Bacteriology in the Marion-Sims College of Medicine.

Read before the St. Louis Medical Society, October 27, 1894.

Now when we seem to be on the verge of a new era in the treatment of diphtheria, a treatment which, to give the splendid results claimed for it, must be instituted not later than forty-eight hours from the beginning of the disease, the question of an early diagnosis becomes a very important one.

There has been some discussion as to whether diphby a study of the bacillus which produces it, and whether this diagnosis can be made promptly enough to be of value to the physician who is treating the case. Looking at the subject in the light of the most recent bacteriological research, we can answer yes to both questions.

The germ which produces diphtheria is now generally admitted to be the Klebs Loeffler bacillus. This is a straight or slightly curved rod-shaped organism, about as long as the tubercle bacillus and twice as thick. It is peculiar in that the rods in a culture vary considerably in size and that many of them take irregular forms, some of them being swelled to several times their thickness at either end or in the middle. Examined in the fresh or living state the rods have refractive spots at either extremity, and when the bacillus is stained these spots show darker than the remaining parts of the germ. The bacillus, however, does not form spores.

These bacilli are *always* present and are usually very abundant in diphtheritic false membranes. If a little of the secretion be scraped off the false membrane and spread on a cover glass and stained with Loeffler's solution of methylene blue, very beautiful preparations of the bacillus will be obtained, and it will be present in larger numbers than any other organisms; while if the throat affection be non diphtheritic in origin the streptococcus pyogenes is usually found in great numbers and it is unusual to find any organism resembling the bacillus of diphtheria.

Clinically, then, the non diphtheritic sore throats are almost always produced by a streptococcus, the chains of which are totally different from the thick rod-shaped bacillus of diphtheria; and where a secretion is examined and found to contain large numbers of organisms, such as have been described, and very few if any streptococci, the probability that the case is diphtheria amounts almost to a certainty.

To render the diagnosis absolutely certain, however, more has to be done. Cultures must be made from the throat, and the behavior of the different culture media, and in the body of the susceptible animal, must be ascertained.

In order to separate the germ out in pure culture, use is made of the fact that it grows much more abundantly than any ordinary mouth bacteria on a culture medium which is called Loeffler's blood serum mixture, which consists of blood serum, three parts with one part of glucose broth. Development of the Klebs-Loeffler bacillus on this medium is so rapid that at the end of five or six, or at the longest, fourteen hours, it has formed grayish white, elevated, rather opaque colonies visible to the naked eye, and there is no other germ found in the mouth that will have had time to form colonies that could interfere with our recognizing these. When the growth thus obtained is inoculated on broth it produces, at the end of thirty-six hours, an acid reaction, and the growth occurs in minute, almost microscopic masses without clouding the media. If material from any of

these cultures be inoculated into a kitten, guinea-pig or other susceptible animal, the animal will die from the effect. If the inoculation is made in the trachea, typical diphtheria will result with false membrane, toxemia and death by intoxication with the tox-albumin or by respiratory interference. If the animal survives, however, it frequently has the characteristic post-diphtheritic paralysis.

Considerable attention has been directed to a non-virulent bacillus, called the pseudo-Loeffler bacillus, which closely resembles the bacillus of diphtheria and which, it is supposed, may be mistaken for it and lead to errors in diagnosis. The weight of opinion to-day, however, is that the pseudo-Loeffler bacillus is a germ belonging to quite a different family from the Klebs-Loeffler, and that, owing to certain cultural differences, the two can be readily distinguished, and also that the pseudo-Loeffler bacillus occurs very frequently on the throat in health or disease.

There is a germ, however, of more frequent occurrence which resembles the Klebs-Loeffler in all respects except that it is not virulent. To properly understand the significance of the germ it is necessary to refer to some facts that we know about other bacteria. It is believed that bacteria are an earlier creation than animal or man. All bacteria, then, must have at first lived elsewhere than in the animal bodies, or, as that is technically termed, they must have lived as saprophytes.

The ability to live as a parasite, or disease producer, is an acquired habit and not an essential part of the life history of bacteria, although with some the habit is so firmly fixed that it is impossible to make them grow otherwise than in the body. As has just been said, virulence in bacteria is a habit, and a habit which can be built up or lost by the surroundings in which the micro organism is placed. To illustrate: It is known that the pneumococcus of Fraenkel is often found in the mouths of healthy people, and that the only difference between the germ and that found in pneumonia is that one is very virulent to the lower animals and the other has very little virulence. Let us inoculate an animal with the germ taken from a healthy man's mouth. The animal will, if very susceptible, contract the disease, but in a mild form. The germ, however, in thus being inoculated into the tissues of an animal, and having to take on a disease producing habit, has accommodated itself to its new surroundings and has increased in virulence, so that if a second animal be inoculated from the first, the disease produced will be much more severe and death will take place sooner. If now this virulent germ taken from the second animal be inoculated on artificial culture media, it will at first grow feebly, for it has not the habit of living except as a disease producer, but if other tubes of media be inoculated from this first tube, the growth in each successive one will be more luxuriant.

The germ, in thus forming a habit of living outside of the body, has lost its virulence, for virulence simply means the ability of a germ to overcome the vital resistance of the tissues, and, while living at their expense, to produce its disease. We have thus seen what is known to occur with the pneumococcus of Fraenkel. There is a good reasons to believe that the same thing takes place with the Klebs-Loeffler bacillus, that these bacilli resemble the diphtheria germ in all respects except virulence, are genuine Klebs-Loeffler bacilli which have lost their virulence, and that virulence is relative not absolute, so that all cases where they are found are suspicious, for when present on a throat the resisting power of which is lowered, the non-virulent but genuine diphtheria bacillus may easily become virulent.

The principal points which I have attempted to put before the Society are:

1. That every case of diphtheria can be quickly and accurately diagnosticated by the use of the microscope.
2. That pseudo-Loeffler bacillus is not a material obstacle to the certainty of the diagnosis.
3. That every case where Klebs-Loeffler bacilli are present, whether virulent or not, is a suspicious case.

Apocynum Cannabinum in Heart Disease.—Dr. Glinski after having proved by experiments on cold-blooded and warm-blooded animals that the root of the apocynum cannabinum contains a strong poison which in large doses paralyzes the heart, and when given in small quantities retards and strengthens its beats, decided to take it himself, as he is suffering from hypertrophy of the left ventricle, with intercurrent attacks of dilatation of the organ, mitral murmur, dyspnea, etc. (*Brit. Med. Jour.*). The dose was fifteen drops of the fluid extract three times a day. As he found that all his symptoms disappeared in two days, he gave it also to other patients in the same quantity in cases of palpitation, disturbed compensation, in which strophanthus and adonis vernalis had failed and digitalis seemed contraindicated. He gives a full account of some of his cases, and summarizes his experience in the following conclusions:

1. The action of the root of apocynum cannabinum is similar to that of digitalis, without being cumulative.
2. In cases of dilatation the fluid extract rapidly diminishes the area of dullness.
3. It increases the daily amount of urine, stops the palpitation and promotes the absorption of transudations.
4. With the exception of increased pulsation of the arteries of the head, it has no bad secondary effects. It was used either in the form of a decoction (℥j to ℥viij), 3 to 4 tablespoonfuls a day, or tincture (1 in ten), 5 to 10 ♏, three to four times daily, or fluid extract in doses of 10 ♏ to half a teaspoonful three times daily.—*Medical Record.*

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More Information About Behring's Healing Serum, or Antitoxine.

In order to judge the value of the antitoxine treatment of diphtheria correctly, we must not allow ourselves to be biased by the enthusiasm of men who have treated comparatively few cases, but will have to draw our inferences from larger statistics, although even the latter are not absolutely to be depended on with regard to the correct valuation of the new remedy. One thing seems to be certain, that guinea pigs are healed with the serum in every instance after a quantity of diphtheria culture has been injected under their skin, which is ten times as large as the dose necessary to kill them. The quantity of serum necessary to accomplish this is called the healing dose in contradistinction to the immunizing dose, which is only one-tenth of the healing dose. According to the statistic of well known men, who have observed hundreds of cases at clinics and hospitals, the mortality of diphtheria has been reduced by the new treatment from 50 to about 25 per cent, according to the recent reports to hand, 12 per cent.

Very favorable are the reports of cases treated from the begining of the disease. Behring in the *Zukunft*, of Nov. 10, 1894 says: "This much may even now be positively asserted that of a hundred patients who are ple healing dose, not five patients will die from diphtheria. The later the treatment of diphtheria is commenced the larger must be the healing dose for its successful treatment."

Allowance must also be made for the fact, that among the statistics of hospital cases referred to are bound to be cases complicated by septicemia, or pyemia and the diphtheria antitoxine has no influence on any other than the diphtheritic infection. It is very probable therefore, that if these complications can be prevented the percentage of mortality will be still smaller and it is not unlikely that if the same care is bestowed upon patients of the internal wards of hospitals with reference to aseptic surroundings, which is now the case with surgical cases only, secondary infections in pneumonia, typhoid fever and diphtheria may be prevented. Behring himself states that the antitoxines are absolutely powerless against a septic or pyemic infection, but claims that every case of pure diphtheria can be cured with the serum. To the objection, that all severe cases of diphtheria are complicated by one or both of these secondary infections he takes exception by quoting cases in which diphtheritic membranes extend into the smallest bronchioles, and where the blood and internal organs have become invaded by diphtheria bacilli. Septicemia and pyemia he considers complications of diphtheria that are preventable by the proper attention to the oral cavity and by aseptic surroundings of the patient.

To obtain the healing serum cattle, sheep, goats and dogs have been made use of, but lately horses are used exclusively, because they yield a larger quantity of serum. Young and healthy horses are selected, including those that have a slight surgical affection. Upon their arrival at the laboratory they are placed into a quarantine stable for observation and examination. A first class veterinary surgeon examines the animal for the purpose of ascertaining its suitability for yielding serum. Then the immunizing treatment begins. Diphtheria cultures that are several years old and have been heated to seventy degrees celsius, or sterilized by the additien of carbolic acid, are injected hypodermically in increasing quantities up to several litres, at intervals of from one to four weeks, until a sufficient quantity of antitoxine has been produced, which fact is ascertained by mixing the serum with a definite quantity of diphtheria toxines, whose virulency should be completely neutralized; the point of neutralization being indicated by the total absence of any symptoms of intoxication when this mixture is injected into a guinea pig.

It takes about eight months of treatment until this point is reached. Then a canula is introduced into the jugular vein and one to three liters of blood gathered in sterilized glass cylinders, which are placed into an ice box for twelve to fourteen hours, the serum is then poured off and 0.5 per cent of carbolic acid added and again tested for its antitoxine value and complete steri-

lization, when it is ready to be bottled in quantities of eight to twelve cubic centimeters. The abstraction of blood may be repeated twice or three times, according to the strength of the animal, when they have to be again injected with diphtheria cultures for several weeks in order to yield serum of proper strength. The serum produced by the injection of young cultures has a much weaker healing power than that produced by cultures several years old.

The chemical composition of the diphtheria antitoxine is not known, it is supposed to be a product of the cells of the body which forms when the diphtheria toxine is injected. According to Behring it is neither albumin nor globulin as it remains active after peptonization. It is claimed by Behring to be as harmless as a sterilized solution of table salt.

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The discoverer of the antitoxine treatment was Behring and not Roux which has been erroneously stated by the greater part of the press. Besides Behring and Roux the healing serum is also manufactured by Aronson. Judging from an explanation by Behring in the *Deutsche Medizinishe Wochenschrift* regarding certain statements made by Aronson about the greater strength of the healing serum made by him for the house of Schering of Berlin, it appears that as Levy exploited Koch's discovery and made a handsome fortune on the ruins of a learned man's blasted reputation, so Mr. Aronson works the new discovery for all it is worth for the house of Schering of Berlin and no doubt to his own interest.

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According to one of our daily papers circulars have been sent by the Vice-President of the St. Louis Medical Society, Dr Heine Marks, to various business men soliciting a subscription for the establishment of a laboratory for the manufacture of diphtheria antitoxine, although a motion having the same purpose in view and made by the same gentleman at a meeting of the St. Louis Medical Society had been voted down.

Anybody who has looked up the literature upon the subject of the manufacture of diphtheria antitoxine must agree with Dr. Ludwig Bremer, who in an exhaustive article upon this subject in the *Post-Dispatch* of December 2, says:

"As the process of making the serum has not been patented, like that, for instance, of many of the coal-tar products, it is natural that plants will spring up all over the world in case the remedy should continue to perform the miracles it has done so far. That such a multiplicity of manufacturing establishments will promote or benefit the cause can not be maintained. Behring claims that the manufacture of the serum ought to be under government control—which is, probably, the correct plan to guard against an inferior and injurious article."

While we are of the same opinion in this matter as Dr. Bremer, we are free to say that his article would have done more good if it had appeared in the REVIEW.

There is a prospect for a long continued and bitter war over the antitoxine between Behring on one hand and Aronson the rival manufacturer, Virchow and Buchner the great Munich bacteriologist on the other; several minor lights in medicine are also participating, generally siding with Virchow. The difficulty originated through a statement made by Behring in a popularly written article for the *Zukunft*, a politico-social journal in which, besides assailing Virchow's cellular pathology which he claims is responsible for a great deal of modern medical nihilism and has been practically in the way of therapeutic progress, he intimates that Virchow has unjustly placed the great discovery to his own credit and that he is in collusion with exploitor Aronson.

***

It is easily conceivable how a man when he is in danger of being defrauded of the proceeds of the work of his life could fly off the handle and fight for his property. It is not to be wondered at therefore that Behring, who seems to be of a very pugnaceous nature anyway, uses the club of defense and aggression in every direction.

Virchow in a recent communication sent to the *Berlin Klinische Wochenschrift* refutes Behring's allegations, claiming that his name was at the head of a list gotten up for a subscription towards the purchase of Behring's remedy, which is much more expensive than that of Aronson, when the supply derived from Aronson's factory had given out.

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In order to understand the animosity with which these battles are being fought a knowledge of the inside history of Berlin medical matters is indispensable. We will only state here that the relations between the Koch school and that of Virchow are anything but cordial. Virchow has been playing the part of the regulator and critic in the new science of bacteriology ever since its inception. Sometimes he has even appeared in the role of an obstructionist. That many of his warnings were timely and his prophesies that many of the enthusiastic expectations will not be realized, the history of recent years has amply demonstrated. It is only natural and in accord with human nature that under such conditions unkind feelings are generated on either side. The emnity of Virchow against Koch and all his school adherents and disciples is no secret in Berlin. It is a chapter which belongs to the unwritten history of Berlin medical matters and men.

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Behring, standing entirely on the ground which Koch has prepared, had assailed Virchow's theories several years ago when he wrote a history of diphtheria. Nobody that is impartial on the subject will deny that Virchow's cellular pathology and the new doctrine of bacterial invasion in infectious diseases are simply irreconcilable. If the one is true, the other is erroneous. Behring had cited in the article on diphtheria as well as in that which appeared in the *Zukunft* passages of

sounds very strange and antiquated indeed.

The discovery of the diphtheria antitoxine and the brilliant practical results thus far obtained would go far towards upsetting Virchow's fundamental doctrine, especially his definition of disease, which according to him is life under changed conditions, which may mean much or nothing. The new doctrine promulgated by Behring that in a bacterial invasion and consequent toxic infection the cells of the body manufacture a special antitoxine, a substance which is inimical and fatal to the invading bacteria and their metabolic products and absolutely harmless to the organism of the host, is of course in diametric opposition to Virchow's teaching and something absolutely needed. But what is above all fatal to Virchow's theory, whose fundamental requirement is that the organs have to be treated in disease and that no infectious malady as such can be healed by one remedy, is the assertion and apparently practical demonstration by Behring that so much poison in the body which is in reality at the bottom of the trouble, can be neutralized or destroyed by an adequate quantity of antitoxine. Instead of the chaos of a multiplicity of drugs and measures which the strict adherents to Virchow's theories would ask for, the treatment of the future of infection is charmingly simple and within the mental grasp of any individual endowed with common sense.

While it is to be deplored that such a war among men who have reached the pinnacle of scientific efficiency should have arisen and that a disagreeable personal element makes itself felt in this controversy, it must be admitted that such fights are not an absolute unalloyed evil. Mutual admiration and blindfolded consent has never advanced the cause of science.

The Antitoxine in the St. Louis Medical Society.

The war which is being waged on the other side of the water between the scientists more or less directly connected with the antitoxine question has, it may be interesting to know, a St. Louis end. During a meeting of the St. Louis Medical Society held November 24, a resolution was introduced by the Vice-President, Dr. Heine Marks, advocating the establishment of a plant for the manufacture of Behring's healing serum. The money necessary for this enterprise was to be raised by the members of the St. Louis Medical Society and the citizens. The motion was objected to principally by Dr. Bremer who claimed that the establishment of a laboratory of this kind was premature and that there was not the requisite talent among the profession of St. Louis that was able to cope with so difficult a matter as the manufacture of the serum. He claimed that at present it required the highest standard of efficiency in bacteriology and organic chemistry and that it would very materially differ from that made at present.

The probability was that it would injure the cause of the antitoxine and the whole enterprise end in a fizzle to the discredit of the St. Louis Medical Society which had fathered the scheme. The proposition was voted down by an overwhelming majority.

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On account of the remarks made by Dr. Bremer on this occasion bad blood has been created in some quarters. It has been stated that it shows a lamentable lack of local patriotism in a St. Louis physician to talk in such a derogatory measure about the incompetency of the local profession. We are impartial in this matter and leave it to the judgment of our readers to form their own opinions.

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Meanwhile Dr. Bremer has been assailed in a daily paper for opposing the manufacture of a remedy which by some physicians, and no doubt by part of the public, is already being looked upon as infallible. The article in which this attack on Dr. Bremer was made and in which he was held responsible for the unchecked continuance of the dread disease had appeared in connection with an interview between a reporter and Dr. Marks. Dr. Bremer had come to the conclusion that the aspersions cast on him had been inspired by Dr. Marks. The matter was brought up by Dr. Bremer before the last meeting of the St. Louis Medical Society in which he reiterated his assertions protesting against the methods employed to place him in the light of an obstructionist to the public welfare and to the introduction in St. Louis of a great invention. Dr. Marks disclaimed any connection with the objectionable passage. In order to fortify his position Dr. Bremer read the resolution (in translation) passed unanimously at a meeting of three hundred Munich physicians recently. Drs. Buchner, Von Rauke, Seitz, Oertel, Bollinger, all of them names of international fame, were present at this meeting. Since it is of general interest to the profession we herewith reproduce these resolutions:

"1. A conclusive opinion about the healing power of the Behring healing serum is for the present impossible, owing principally to the different character of diphtheria as to form and gravity; only long continued and exact observations can furnish reliable data.

"It is to be recommended, therefore, not to entertain any too high expectations as to the healing serum, and to inform and instruct the public in this sense."

"2. Judging from the experience with this remedy so far, experiments with the healing serum ought to be made and the clinical and polyclinical institutions are to be considered as those places where these experiments should be conducted."

In explanation of the preceding resolutions it is of interest to state that when the antitoxine had given out in Berlin and the mortality among children in the principal children's hospital had again assumed the

proportions of old the parents of the victims of the disease were inclined to denounce the physicians for not having the remedy ready at the proper time. This is one of the serious drawbacks, for judging from a statement made by Dr. Aronson in the Berlin Medical Society quoted by Dr. Bremer on the above occasion, the preparatory treatment of the animals to render them proof against infection and intoxication, takes eight months.

BOOK REVIEWS

A Clinical Manual of Diseases of the Eye, Including a Sketch of Its Anatomy. By D. B. St. John Roosa, M.D., LL.D., Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School and Hospital; Surgeon to the Manhattan Eye and Ear Hospital; formerly Professor of Diseases of the Eye in the University of the City of New York, and in the University of Vermont; Consulting Surgeon to the Brooklyn Eye and Ear Hospital; President of the New York Academy of Medicine; Honorary Member of the Medico-Chirurgical Society of Edinburgh; Honorary Fellow of the Academy of Medicine of Havana, Cuba, etc. Octavo, 650 pages, 178 engravings in the text, nearly all original, two full-page chromo-lithographic plates, and a full page black plate. Bound in extra muslin at $5 50, and in sheep at $6 50. New York: Wm. Wood & Co. St. Louis: J. H. Chambers & Co.

This new text-book on ophthalmology is full of sound, practical advice and written in an admirably clear style. The young ophthalmologist, for whom the author has particularly meant it to be useful, will undoubtedly find much that is good in it. This book will be especially valuable to him, if he follows its teachings concerning heterophoria and has less enthusiasm than its author for the ophthalmometer. A.

A Text-Book on Diseases of the Eye. By Henry D. Noyes, A.M., M.D. Complete in one octavo volume of 816 pages, profusely illustrated with 269 wood engravings in the text, five chromo-lithographic plates, and ten plates black and colors. Second Revised Edition. Price, cloth, $6.00; leather, $7.00. New York: William Wood & Co. St. Louis: J. H. Chambers & Co.

Among the many new text-books on diseases of the eye which have of late appeared, this is undoubtedly one of the best. It combines a thorough knowledge of the vast ophthalmological literature with an equally large personal experience. We had occasion to bestow a similar praise on the first edition of this work and we can only add that this, the second edition, is still more highly to be recommended. A.

Clinical Diagnosis. By Albert Abrams, M.D. (Heidelberg), Professor of Pathology, Cooper Medical College, San Francisco, Cal.; Pathologist to the City and County Hospital, San Francisco; Author of "A Synopsis of Morbid Renal Secretions," etc.; President of the San Francisco Medico-Chirurgical Society; President of the Alumni Association of Cooper Medical College. Third Edition, Revised and Enlarged. Illustrated. 1894. Price, $2 75. New York: E. B. Treat. St. Louis: J. H. Chambers & Co.

In this edition the original character of the work has been preserved as an index to or as an abstract of more pretentious works on the subject. Its author very modestly says: "I have gathered a posie of other men's flowers, and nothing but the thread that binds them is mine own." Many synoptic tables, a chapter on insanity, and a summary of recent methods of diagnosis have been added to the new edition. It is a good compilation and will be appreciated by everyone who possesses it.

A Synopsis of the Practice of Medicine. For Practitioners and Students. By. William Blair Stewart, A.M., M.D., Lecturer on Therapeutics; late Instructor on Practice of Medicine in the Medico-Chirurgical College of Philadelphia; Demonstrator in the Philadelphia School of Anatomy, etc. One Large Octavo Volume, about 434 pages, $2.75. New York: E. B. Treat. St. Louis: J. H. Chambers & Company.

This is a practical work, particularly valuable to the busy general practitioner and student. Whoever wishes a short and comprehensive synopsis of the diseases most generally met with by the general practitioner, should buy this book. All of the prominent authorities in the recently issued text-books and systems, also the current medical literature, have been laid under contribution, and the methods of treatment are in harmony with the progress made in therapeutics within recent years and many drugs and methods have not been considered at length from the fact that better forms of treatment have taken their place.

CORRESPONDENCE

Testimonial to Sir Joseph Lister.

Editor Medical Review.—Sir Joseph Lister having recently retired from active hospital and teaching work, the occasion has been thought appropriate for present-

tees have, therefore, been formed in Glasgow, Edinburgh and London for the purpose of raising the necessary funds.

It is proposed that the testimonial shall take the form of a portrait. Subscriptions have been limited to two guineas and it is hoped that sufficient funds will be collected to permit of some memento of the occasion being presented to each subscriber of that amount.

As there are probably many surgeons in the United States who may wish to join in the movement, but whose names and exact addresses it has been difficult to ascertain, I should be glad if you would permit me to state that subscriptions may be sent to me at 29 Weymouth Street, Portland Place, London W. England, or to one or other of the following gentlemen who have kindly consented to act as treasurers, viz.: Dr. James Finlayson, 4 Woodside Place, Glasgow Scotland: Professor Chiene, 26 Charlotte Square, Edinburgh, Scotland; Professor William Rose, 17 Harley Street, London W. England; Dr. Malloch, 124 James St. South, Hamilton, Ont., or J. Stewart, M.B., 37 South St., Halifax, Nova Scotia.

J. Fredk. W. Silk, Honorary Secretary.

P. S.—Two guineas are about $10.23.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Oct. 27, 1894, the President, W. B. Outten, M.D., in the Chair.

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Dr. Heine Marks presented a specimen of "Cerebral Abscess," and read the following history of the case:

John C., aged 40; occupation cooper; entered the hospital on Thursday, September 13, 1894, at 8.45 A.M. Patient was unable to talk, and it was therefore impossible to obtain a complete previous history of the case. Four weeks previous, however, he had been struck on the head with a stone. On October 8, a friend gave the additional information that patient had felt very well up to three weeks after the accident occurred, when, while talking to a friend, he suddenly fell to the ground, striking the posterior portion of his head. He remained unconscious for two or three days, and upon reviving he could not talk and he has remained so ever since.

Examination revealed a newly formed cicatrix, beginning at the median line about three inches from the glabella and extending transversely to the left for a distance of about 1¼ inches. In the center of the cicatrix distinct depressed fracture situated about 2½ or 3 inches above the supra-orbital ridge and about one quarter of an inch to the left of the median line.

There was paralysis of the right side of the face, the left angle of the mouth was drawn up and the tongue diverged to the right side when projected. There was paresis of the right arm and leg. The cutaneous and tendon reflexes of the right side were increased, but there were no disturbances of sensation. He was somewhat drowsy if left undisturbed, lying motionless with eyes closed. After being aroused he seemed to understand what was being said to him and replied by nodding the head.

He was well nourished, appetite good, bowels regular. Temperature never reached above 101°; respiration and pulse normal. Complained of no headache and seemed to have been comfortable.

Urinalysis.—Spec. gravity 1020, acid, normal color, no albumen.

October 1. Sinus still existed and there was a small amount of pus in the wound, which was thoroughly curetted and dressed antiseptically. Patient stupid; above symptoms about the same.

October 15. Patient dressed and a spicula of bone, about 1/8 inch square, removed by the currette.

October 19. The wound was healed and the patient seemed to be in a fairly good condition.

October 20. At 10 P.M patient suddenly lapsed into a comatose state, remained so and died at 6:20 P.M., October 21, 1894.

Post mortem, 13 hours after death.

In the left frontal region of the head there was a small depressed stellate scar. On removal of the scalp it was found adherent to the skull. At this point there was a depressed fracture which had united. On lifting the skull cap the inner table was found to be fractured more than the outer and there was quite a rough depression. The dura was adherent to the bone and to the arachnoid and piamater. The adhesions covered an area of about ¾ of an inch in diameter, were firm and showed no signs of a recent exudate. This was over the superior frontal sulcus, involving the posterior part of the first and second frontal convolutions and also the motor area. The surface of the brain looked normal.

On section of the left side, an abscess was found underneath the above mentioned area, and situated about one-half inch in. The abscess was making its way downwards, had ruptured into the left lateral ventricle and had spread through the lateral ventricle on the right side into the third and fourth, and to the base of the brain. The upper part of the abscess had a distinct wall, the lower had not. The septum and surrounding parts were softened. Right side of the brain normal.

Dr. W. B. Outten called attention to the laceration of the brain substance accompanying ordinary concussion of the brain. This fact is beautifully illustrated by Dr. Marks' case, and was demonstrated by Felizet,

who dropped a skull filled with paraphene to the floor and noted the impression made on the paraphene, although there had been no fracture of the bone produced.

Another point of considerable interest is the occurrence of epilepsy as a result of injuries to the anterior portions of the brain, and traumatic insanity in lesions of the occipital region at the juncture of the saggital with the lambdoidal suture. In one case, seen by the speaker, a man was thrown violently to the ground, striking the occiput and rupturing the lateral sinus. The flow of blood was checked by gauze packing. The man recovered from the injury, but became insane immediately after regaining consciousness and remained so until his death 7½ months later. In the second case the injury was at the superior portion of the occipital bone, and in the third at the vertex at the junction of the saggital with the lambdoidal suture.

These cases are of interest as general practitioners and neurologists claim that it is rare to find insanity resulting directly from an injury to the brain, and if so the injury is usually to the anterior portion of the skull.

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Dr. T. F. Prewitt presented a number of pathological specimens, the first of which was a "Sarcoma of the Antrum." Unlike the specimen presented by Dr Hauck a few meetings previous, in which the trouble was recognized early and operated upon promptly, this case was very much more progressed and the disease had involved all the surrounding bony and soft structures. The patient is a woman about 47 years old, who had had considerable trouble since a number of years. Four years ago a dentist extracted a tooth and remarked at the time that there seemed to be some trouble beyond the mere root of the tooth. It was only during the last few months, however, that the patient became uneasy, owing to the formation of an ulcer on the inner side of the jaw opposite the position of the extracted molar tooth. Examination revealed the mass projecting, and the roof of the mouth soft and yielding. The antrum was not much enlarged, though somewhat tender.

In operating, the ordinary Ferguson incision was made, as is the speaker's custom and which he declared he would never again fail to do, as one gets rid of the blood and can operate with a great deal more comfort and satisfaction. All suspicious looking substance was removed. Some small growths were found in the antrum, which are doubtless malignant in character. The patient left for her home a few days ago doing very nicely, although the permanent result must necessarily be very doubtful.

The second specimen was one of "Epithelioma of the Cheek," of thirteen years' standing. There was ulceration of the inner side of the cheek, and cicatrization had taken place in the edges just back of the angle of the mouth. No lymphatic involvement could be detected. A quadrangular piece was removed and the gap closed by a sliding flap taken from the neck. Union by first intention occurred throughout except at a small point which was doubtless the result of the man's inveterate talking and smoking, a pastime in which he indulged from the day of operation.

The third specimen was a "Tumor of the Thyroid Gland," removed from a young girl, 22 years of age, on account of the inconvenience produced by its size, which was increasing rapidly. It seemed to be freely moveable before operation and complete enucleation was thought possible. At the operation, however, it was found attached to the body of the gland by a broad pedicle. Numerous large veins were found entering its substance—one in particular, a branch of the inferior thyroid almost as large as a little finger—and several ligatures were required.

The fourth was a "Mulberry Calculus," removed from the bladder of a boy, who said he had had it since childhood. Although of such long duration there was no phosphatic deposit. The walls of the bladder were thickened and rough.

The fifth specimen was an enlarged "Lymphatic Gland," removed from the inguinal region, and of interest from the fact that it had grown into the saphenous opening, causing considerable dilatation of the femoral ring. Coughing caused a protrusion each time, and its removal left the opening protected only by a little connective tissue fat and the peritoneum. The patient has been confined to bed and the wound is being treated by the open method, a firmer cicatrix being expected to form in that way which would reduce the possibility of the occurrence of hernia, a complication which would be very deplorable.

Dr. H. Jacobson considered the perineal method preferable for removing cystic calculi from the standpoint of drainage. But in boys and young men the danger of injury to the ejaculatory ducts makes the supra-pubic operation more desirable. Several cases are on record where this accident has occurred and in which sterility was thus produced.

The objection to the crushing operation is the possibility of fragments remaining and acting as nuclei for a new formation of stone. This occurs in spite of the apparently perfect crushing instruments.

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Dr. Robert Funkhouser presented a specimen of a "Uterus and Its Appendages," which were removed per vaginam. The condition was one of procedentia, complicated by multiple cysts of both ovaries, a hyematosalpynx and extrusion of the bladder. The patient is 39 years old, and although she had been in this condition for over eight years, no measures for her relief had been adopted except the use of tampons and pessaries.

No clamps were used in the operation and considerable hemorrhage accompanied it, there being, seemingly, three uterine arteries on each side. Another difficulty was encountered by the intimate connection between the peritoneum and uterus, there being apparently no tissue intervening between the serous and muscular structure. Enucleation was impossible and the peri-

and a drainage tube inserted. When an attempt was made to remove the tube several days later it was found to be firmly engaged. When dislodged it was filled for about two inches with connective tissue and possibly some edges of the peritoneum. The temperature did not rise above 99½°, the woman made a complete recovery and is now in good health.

The uterus was seven inches long and there is a cyst in the left ovary about the size of a walnut, and a larger one on the right side.

Dr. L. H. Laidley considered the operation of hysterectomy justifiable in cancerous disease of the uterus. He had operated in a number of cases, all of which died after various periods after the operation. Although we may not be able to produce a permanent cure of the disease, he believed that he certainly contributed to the patient's comfort. In prolapsus uteri, complicated by cystocele or not, it is a question whether it would not be more advisable to open the abdomen and tack the organ to the wall than to remove it per vaginam, an operation which is associated with serious results and is very apt to be followed by hernia.

Dr. Emory Lanphear is in favor of vaginal hysterectomy, as it has been his experience to find women suffering more acutely from the dragging pain at the site of ventral fixation, than from the original procidentia for which the operation was done. On the other hand, the very best results followed the 18 or 20 hysterectomies for procidentia. There is no reason why the uterus should not be removed unless the patient is very desirous of bearing children.

Speaker could not understand why Dr. Funkhouser should insert a drainage tube or why he sutured the peritoneum. The first step is unnecessary, as a little iodoform gauze packed into the pelvis prevents the intestines from descending. The sutures may be dispensed with, as the rectum and bladder immediately come together and immediate agglutination of the serous surfaces occurs.

The difficulty in removing the peritoneum, as encountered by Dr. Funkhouser, had been met with by the speaker in a number of instances. It belongs to the class of cases in which Pratt, of Chicago, would have attempted enucleation.

Dr. Funkhouser considered ventral fixation out of the question in this case. The uterus was seven inches long and the body hypertrophied. The procindentia was complete; the whole organ was out in the world and sometimes the bladder also. Furthermore, the degeneration of the tube and ovaries would have necessitated their removal by laparotomy.

As to Dr. Lanphear's queries, the speaker said that he inserted the drainage tubes because it is done by many practitioners to drain the cavity in this manner, and preferred by himself. As to the enucleation of the organ, that operation did not originate with Pratt, but was described by Langley in 1813. Speaker did not think instance and would not have been of any avail, as the peritoneum had to be opened any how in removing the cystic ovaries and tubes. The suturing of the peritoneum was done because the speaker considered it better practice. Operators are divided on that point.

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Dr. Given Campbell, Jr., read a paper entitled (see page 445),

Bacteriologic Diagnosis of Diphtheria,

and exhibited microscopical slides of cultures of the Klebs-Loeffler bacillus.

Dr. Funkhouser is considerably interested in microscopy, but had been so to a greater extent some years ago. The theory presented is one which he had broached to the Medico-Chirurgical Society eight years ago; namely, that pathogenous and non-pathogenous bacteria are similar, but depend on their habitat for their difference of power.

Dr. Prewitt regretted that the essayist had not closed with something about the therapy of the disease. Nothing is more intractible, nor more dreaded and detested by the doctor, than diphtheria. Although we have occasionally heard doctors who have claimed to cure 80% of diphtheria cases, the claims have always proved to be more marvelous than true, and we really have no positive remedy, unless the antitoxine just discovered proves to be as efficient as is claimed for it. If the reports are verified it will prove to be the most marvelous discovery of the age.

Dr. I. N. Love called attention to the fact that the mortality of 65% in diphtheria, as given by authors, really includes all cases in their varying degree of severity, whereas the experiments with the new remedy, antitoxine, were probably made on malignant cases only. We are really somewhat at sea in making an estimate of the mortality. Cases may occur where only a small area of the throat is involved and in which no constitutional symptoms occur. Then, the course of the disease frequently depends on the power of resistance of the child, which renders practically inert the tox-albumen secreted by the bacillus. If these conditions are possible we do not know how many cases of diphtheria go unrecognized, and how many other children, who have less resisting power, are infected by these milder cases. Diphtheria is always primarily a local disease and becomes constitutional after the absorption of the toxalbumen.

The decrease in death rate from 65% to 35% is really more significant than it would at first appear. If the cases experimented upon have been malignant in character, it means a saving more than fifty per cent greater than formerly. Speaker thought that we are on the eve of either the most remarkable discovery in the history of the treatment of disease ever known, or else we have another roaring farce like the Brown-Sequard elixir of life. This and other recent similar experiences

we have something definite. We should continue to employ our old remedies and should employ them early. If we wait for a diagnosis by the microscope before instituting treatment we are losing valuable time. All suspicious cases should be treated as if they were genuine, and the proper measures taken to prevent infection of other members of the family. All possible victims should be isolated.

Dr. H. W. Loeb commented favorably on the use of the microscope as a diagnostic agent in suspicious looking affections of the throat. He had occasion to use it, and also to appreciate Dr. Campbell's skill in this direction.

One case, that of a student, began as a severe follicular tonsilitis. There were deposits in the crypts and the case continued four or five days without improvement, in spite of the exhibition of the usual remedies. Although it did not look like diphtheria, an examination with the microscope was made which led to the detection of the Klebs-Loeffler bacillus. Fifteen hours after the report was made the membrane coalesced and spread to the uvula. The patient recovered, and, although it was doubtless a case of follicular tonsilitis at first, the diagnosis of diphtheria was made fifteen hours before distinct evidence of the disease had appeared.

In another case, that of a child, the ordinary symptoms of follicular tonsilitis were present at first, but a microscopical examination revealed the bacillus. Fifteen hours later the membranes spread and coalesced, giving the distinct clinical features of diphtheria.

In a third case, which the speaker saw in Jefferson City in consultation, the evidence pointed to follicular tonsilitis. A microscopical examination was not possible, although there was an element of doubt about the case which was only set aside by the course of the diseases, which proved the correctness of the first diagnosis.

Dr. Campbell had purposely not touched upon the therapy of this subject, as he thought that it did not come distinctly within the title. He had done a great deal of work in that direction, however, and promised to give the Society the benefit of it at a later date.

The Klebs-Loeffler bacillus multiplies in the system and secretes a poison or toxine. Along with this toxine is produced, in gradually increasing quantity, a substance which is antidotal to the toxine. It resolves itself, then, to a question of resisting power of the infected animal. If this is sufficient to withstand the poisonous effect of the toxine long enough to permit of the formation of a sufficient quantity of anti-toxine to antidote the toxalbumen, the animal will recover. If the animal does not possess this required resistance, of course, nothing can be done. This fact must be borne in mind in the preparation of anti-toxine, otherwise it would be very expensive, as the animal generally used is the horse, and good horses at that, and a concentrated gradually increased in strength and quantity, whereby the blood serum is gradually converted into anti-toxine. In this way the disease is not actually produced, but it resembles diphtheria just as the effect of vaccination resembles small-pox. The injections are continued through several months until the pure culture produces no other effect on the animal than to increase the quantity of the anti-toxine. A portion of the blood of the animal is then withdrawn, the serum separated and injected into the patient to cure the disease. Ten to 20 cc. are used at the first injection and 50 to 100 at the second. Two injections usually suffice to accomplish a cure.

In answer to a question by Dr. Love, speaker said that we may have both the Klebs-Loeffler bacillus and the pseudo bacillus, or the bacillus diphtheriticus in a given case. The difference is that the former is virulent while the latter is not. He also said that the milk of an immunized goat will render an individual who drinks it immune from the disease.

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Stated meeting, Saturday evening, November 3, 1894, the President, W. B. Outten, M.D., in the chair.

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Dr. W. B. Outten read a paper entitled, "Residence as a Factor in Surgical Operations and Injuries," with especial reference to the dormancy of the Protozoa (Lavernau) of malaria.

Dr. A. H. Meisenbach considered the subject one of very great importance, particularly since few authors devote very much attention to it. He has been in the habit of dwelling upon this subject at length in his lectures, and had met with cases in his practice which corresponded, in the main, with the points brought out by the essayist. Malarial fever may occur after an injury or operation in persons who live in malarial districts, but who have never had an attack before. It may also occur, under the same conditions, in persons who have been previously afflicted, or who have come from a malarial district into a healthy one. It is very important that the surgeon keep these possibilities in mind, as it may relieve him of a great deal of worry as to the probable cause of fever occurring shortly after an operation. He should inquire carefully into all the details in the case of injured persons or those about to be operated upon, and should precede or accompany surgical treatment by the proper administration of quinine if a malarial history is found.

Dr. Fairbrother said that the paper is one of great interest and value, in that it calls attention to a very important subject—one that had not received the study and investigation that is due it. The impress of malaria upon the system certainly modifies the course of injuries and surgical operations, and this malarial tendency —the malarial protozoa—may doubtless lie dormant and be developed in the event of any strong shock to the system. But it is no easy task to differentiate between

malarial and septic fevers following injuries or operations. A pernicious malarial fever often has no periodical character, whereas, a septic fever may sometimes have a distinct intermission. They cannot be distinguished by general symptoms, and must be known only by bacteriological study. In this field there is an opportunity of obtaining valuable results, as the malarial protozoon is now very well defined.

Although it has now almost wholly disappeared, twenty years ago malaria was very prevalent in East St. Louis, and it complicated nearly every severe injury. It was not unusual to have a fever following injuries, or operations, or childbirth, that was not septic but malarial, although the patient had had no symptoms before. Its course could be modified or checked by quinine, whereas, this remedy had no influence on septic fever.

The speaker could not state what effect the presence of the malarial condition had upon the proper healing of wounds, or upon the accidents which sometimes follow injuries. These accidents are cellulitis, erysipelas, phlebitis and general septic infection. Whether these disorders are promoted by malaria, is an open question. It is even maintained by some, that the anemic condition of malarious subjects favors their escape from the inflammatory affections. In the State of Texas malaria is almost omnipresent, and yet, in one of our medical journals, two very candid writers have recently maintained that septic troubles following operations are there almost unknown.

Dr. G. F. Hulbert thought that Dr. Outten had acted exceedingly wise in stepping aside from the eclat and display of surgical work and bringing to our attention so practical a theme as this. He had not heard the subject discussed before, although it is eminently practical and ought to be easily settled by examinations of the blood made by a competent bacteriologist. There is no doubt that malaria can be diagnosticated by an examination of the blood when made by a competent person. Osler is particularly positive in this regard, and says that there is no excuse for a failure if the proper care is exercised. It is very difficult to settle the question by the clinical history alone, as there is a form of sepsis that is exceeding deceptive, even a post-mortem showing very little to indicate the trouble.

The reason why malarial infection might have an influence after traumatisms, is because of the profound shock—especially after railroad injuries—which depletes the resisting power of the patient.

But Dr. Outten had made several promises to night as to what he intends to accomplish by investigations which he has on foot, and since this is an exceedingly valuable practical subject, we shall necessarily await the result with a great deal of interest.

Dr. J. Ellis Jennings had had three years of experience in Panama in connection with the work on the canal, and he read the following notes, of interest in connection with the subject in discussion.

I have been very much interested in the paper just read by our President, because it carries me back to the

servation of many years has enabled the surgeon to determine exactly when he may expect an attack of malaria, if he knows the region from which the patient comes. It has enabled him to predict the result positively, if certain persons are shipped to certain localities in certain seasons. Thus, a case of dysentery shipped south, will be dead from complications before the patient reaches Texarkana. So unfailing has this observation been, that patients coming from malarial districts are always prepared before operation, by giving them good doses of calomel followed by quinine. Where there is an element of doubt the surgeon should always make on examination of the blood, or, if incompetent to do so himself, have the examination made by an experienced microscopist. We should never lose sight of the fact that there is a double force at work in surgical troubles; namely, the original injury or disease and the mental or nervous shock as an exciting factor to a previously existing malarial infection.

In answer to a question by Dr. Meisenbach, as to what his experience had been in regard to the effect of malarial complications on the healing of wounds, the speaker said he had never seen a wound heal well when the malarial influence was present. It would be strange if anything producing anemia would not influence the healing process. We know that the disease destroys the red blood corpuscles, and we know what an important part they play.

Dr. Hulbert.—Can you differentiate between malarial conditions and septic disturbances in these traumatic cases?

Dr. Outten.—In these cases I have, certainly. There is an essential difference in the local condition.

Dr. Given Campbell's paper was taken up for discussion, as a special order of business, and the author was asked to explain the nature of anti-toxine, and his method of obtaining it.

Dr. Campbell said that it is not definitely known, as yet, what anti-toxine is. It is an albuminous substance and probably resembles the vegetable alkaloids in certain respects, although we do not know its chemical formula. It is contained in the serum and is an antidote for the toxine of the diphtheria germ. Its antidotal properties may be demonstrated by the following experiment. If five minims of a beef infusion culture of the diphtheria bacillus, from which the germs have been filtered, are injected into a mouse, the animal will die in ten minutes. If, however, one minim of this substance called anti-toxine be added to the five drops of infusion before injection, the animal will suffer no harm whatever. It is, therefore, natural to suppose that there was something in the blood which neutralized the toxine of the diphtheria germ.

The anti toxine is the filtered serum from the blood of an animal which has been rendered immune to the disease by the injection of diphtheria cultures of gradually increasing doses and strength. This immunity exists when a pure culture of the germ produces no effect on the animal whatever.

In the process of filtration the speaker had made use of an original method. The blood is allowed to clot slightly and the principal part of the serum allowed to separate. The opaque serum is then placed into a Pasteur filter which is surrounded by a heavy tube. This tube is connected with a tight vessel containing liquid carbonic acid gas, which exerts a pressure of fifty atmospheres on the serum. The pressure is indicated by a gauge and regulated by a stop cock attachment. Although formerly it was impossible to filter blood serum by negative pressure alone, by applying 250 pounds pressure to the square inch with this apparatus the serum comes through perfectly clear and contains all the albuminous elements.

ABSTRACTS

SURGERY.

Diagnosis and Treatment of Prostatic Enlargement.—Belfield (*Indian Medical Journal*) in the following sentences, expresses his views on this subject.

While the etiology of prostatic enlargement still remains a matter of speculation, it is certain that the earliest clinical symptoms are due to vascular engorgement of the prostate and, by consequence, of the bladder. The actual increase in the size of the gland should not obscure the other factors in producing the symptoms, which may be out of all proportion to the perceptible enlargement. The factors contributing to the familiar symptoms associated with prostatic enlargement are:

1. Venous congestion and edema of prostate and bladder.

2. Fibroid thickening of the vesical (prostatic) sphincter, often extending to the detrusor and to the prostate.

3. Suppuration in the prostatic urethra (glands and utricle).

4. Hypertrophy of the prostatic elements (glandular or muscular, or both).

5. Chronic retention of urine, due to any one or all of these four antecedent conditions.

The most important as well as the most difficult task in diagnosis is the differentiation among these various morbid states; for the prognosis as well as the treatment is determined by the predominance of one or another of them. For example, a prostatic patient complains of frequent and painful urination; the chief trouble may be an aggravation of the usual venous congestion, in which case a brisk laxative, suppositories of ichthyol, and ergotin and strychnine internally will secure speedy relief. Again, the symptoms may be due to prostatic suppuration, in which event irrigation of the deep

urethra with hot water containing hydrastin or silver nitrate is needed; or the frequent urination may be simply the overflow of a distended bladder, which is relieved by the cautious daily use of a clean catheter.

It should be remembered that the symptoms clinically associated with prostatic hypertrophy depend upon several distinct morbid conditions, of which the mechanical impediment to the exit of urine may be the least; and that no routine treatment can be prescribed, the requirements varying with the case.

Our resources for meeting the needs of different patients may be thus summarized:

1. Medical.—*a*. Improvement in the blood circulation through prostate and bladder is favored by proper diet and exercise, avoidance of constipation, massage of prostate between a sound in the bladder and finger in rectum, and by the daily use of a clean catheter; internally, ergotin and strychnine are certainly useful.

b Suppuration in the bladder neck requires irrigation of the prostatic urethra with hot water, solutions of hydrastin, silver nitrate, etc, in addition to the measures already mentioned.

c. Induration and distortion of the bladder neck may be improved by dilatation with large sounds or a special dilator.

In a certain percentage of cases the time arrives, sooner or later, when these measures fail to relieve, and more efficient and immediate aid must be rendered.

2. Surgical Methods.—*a*. The simplest is puncture of the membranous urethra from the perineum and introduction of a drain, which is permitted to remain for a couple of weeks. The subsidence of congestion and edema, and the cleansing of the bladder thus induced, sometimes makes an apparent cure for many months. Puncture with a trocar through the prostate (Harrison), or drainage of the bas fond behind the organ, is even more desirable.

b. By a perineal urethrotomy the surgeon can secure not merely drainage, but also thorough digital stretching of the prostate and the incision or excision of obstructions at the orifice of the bladder.

c. More satisfactory excision of prostatic obstruction has been accomplished by a combination of suprapubic cystotomy with perineal urethrotomy,—now a standard operation.

Within the past year there have been reported attempts to relieve the sufferings of the prostatic by securing atrophy of the enlarged prostate; by Bier, through ligation of the internal iliacs, and by Raum (The credit of proposing castration as a means of producing prostatic atrophy undoubtely belongs to Dr. J. William White, though Raum was probably the first to make a practical application of the proposal on man.) through castration. Bier reports three cases; in one, death from septic peritionitis occurred; in the remaining two, marked reduction in the size of the gland and decided improvement in symptoms are reported. Castration alone is said to have accomplished a cure in Raum's two cases.

in the mass of connective tissue forming the wall of the abscess, the opening in the gut still existing.

Therefore, McBurney advised operation in the above case. He calls attention to the fact that cases of appendicitis differ very greatly in character. Incisions made through the abdominal wall must be adapted to the requirements of each case. In some cases the appendix can be removed with perfect ease through a very small incision, say one and a half inches in length, but to apply such a method, as recently described in some of the journals, indiscriminately to the different cases, and to adopt a standard incision for abdominal section, is useless. The incision must be adapted to the character of the case to be operated on; we should not accept any method of entering the peritoneal cavity through a small opening in operating for an extensive disease. If we know by experience that the disease is small in extent, then we can remove the appendix through a small aperture with advantage. This, of course, does not apply to the cutaneous incision.

The operator, after cutting down to the appendix, found an abscess cavity. The appendix was removed and the opening in the intestine sewed up. The patient was in such a condition that the removal of the diseased appendix seemed the only course to prevent an imminent attack of appendicitis.—*Therapeutic Gazette.*

NOTES AND ITEMS

The Temperance Reform League of Massachusetts and the Keeley Cure.—Dr. B. D. Evans, the Medical Director of the New Jersey State Hospital for the Insane, has been admitted to membership in the Temperance Reform League of Massachusetts. This ends a battle between Dr. Evans and the Keeley cure, as far as Massachusetts can decide it, with victory in favor of the former. Dr. Evans, it will be remembered, gathered statistics from insane asylums over the United States and among the one thousand insane patients in the hospital of which he has charge, compiling valuable and detailed "tables of cases of relapse, suicide, mania and dementia subsequent to the graduation at the Keeley Institute." His article, which was published in the *Medical News* of May 6, 1893, was reprinted in Boston papers, and his report was laid before the Temperance Reform League. It was bitterly denounced by the "Keeley Cure," which applied to the Temperance Reform League for an examination, for this organization by its charter from the State is a quasi court, whose functions are those of a judge who examines conflicting medical evidence in a suit for malpractice and announces the result. The end of the trial has been reached, and Dr. Evans is honorably welcomed into the society, and thanked for his services in expos-

No Doctors' Quarrel Over the Czar.—The daily papers have tried very hard to make out a quarrel between the attending physicians of the Czar (*Medical Record*). As a matter of fact there has been no real evidence that any special differences of opinion existed, and the following cablegram to the *Sun* confirms this view. The correspondent says: "Professor Leyden, since returning to Berlin, has spoken frankly about the case of the dead Emperor. He said that the statements circulating at St. Petersburg about serious differences between himself and Dr. Zakharin were not quite correct. There had been, now and then, diverging opinions, but in consultation the doctors always arrived at an amicable compromise. The statement that a quarrel had taken place about Dr. Zakharin'a frankness with the late Czar was a misunderetood report. It was the Czarina, not the Czar, from whom the German professor wished to conceal the truth as long as possible, out of regard for her delicate health and because he believed the full knowledge of the situation could be of no use to her. Professor Zakharin was of a different opinion. It, however, is not probable that a quarrel between the doctors will ensue, as in 1888, after Emperor Frederick's death."

Tri-State Medical Society of Iowa, Illinois and Missouri.—Announcement.—The next meeting of this Society will be held in St. Louis, Mo., April 2, 3 and 4, 1895. The Secretary announces that the address on surgery will be given by Dr. John A. Wyeth, of New York. The address on gynecology will be delivered by Dr. Fred Byron Robinson, of Chicago. Dr. David A. Cerna, of Galveston, Texas, will speak on Recent Advances in Therapeutics. The following well known gentlemen have promised to read papers before the Society: Dr. Charles L. Dana, of New York; Dr. Edward P. Davis, of Philadelphia; Dr. W. W. Keen, of Philadelphia, will hold a surgical clinic, and Dr. Charles A. Oliver, of the same city, will hold an ophthalmic clinic; Drs. Frank Lydston, Robert H. Babcock, Hugh T. Patrick, Wm. F. Waugh and A. H Ferguson, of Chicago, will be present and participate in the program; Dr. Joseph Eastman, of Indianapolis, and Dr. Howard A. Keeley, of Baltimore, have promised to attend. Dr. Heneage Gibbes, of Ann Arbor, Mich., will read a paper. Dr. Roswell Park, of Buffalo, N. Y., will endeavor to attend. Drs. E. O. Sisson and F. B. Dorsey, of Keokuk, Iowa, will read papers. Drs. D. C. Brockman and W. B. LaForce, of Ottumwa, Iowa, will attend. Dr. John H. McIntyre, of St. Louis, will read a paper. A large delegation will be present from Kansas City. The sessions of this Society have been characterized by scientific work of a high grade and the discussions have been of great value. It is hoped that the physicians of St. Louis will drop any little personal grievances and extend a hearty welcome to the distin-

guished members of the Tri State Medical Society. The officers elected at the recent meeting are the following:

President—Dr. James Moores Ball, of St. Louis

Senior Vice-President—Dr. Bayard Holmes, of Chicago.

Junior Vice-President—Dr. L. A. Malone, of Jacksonville, Ill.

Treasurer—Dr. Charles S. Chase, of Waterloo, Iowa.

Secretary—Dr. Frank Parsons Norbury, of Jacksonsonville, Ill.

A local committee of arrangements has been appointed consisting of the following St. Louis physicians: W. B. Outten, James A. Close, H. W. Loeb, A. J. Steele, E. H. Gregory, George W. Cale, J. H. McIntyre and C. H. Hughes.

With such an excellent committee and officers ever on the alert to further the interests of the Tri-State Medical Society, there can be no doubt that the April meeting will be a success.

Other announcements will be made from time to time.

FRANK PARSONS NORBURY, M.D.,
Secretary.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Upon the Buccal Glands of Domestic Mammalia.

BY B. BARNER.

The macroscopic disposition of the buccal glands vary considerably in different species of our domestic mammalia. These differences, which are not mentioned in our books of anatomy, are as follows:

In ruminants, and especially the ox, there exists three buccal glands, one dorsal, one median, one ventral. In the cat as in the dog, the dorsal gland occupies the orbital cavity and for this reason is called the orbital gland. In the pig, the buccal dorsal gland is not covered by the matter. These glands also differ in size, according to the species, being largest in ruminants.

The histological study shows that the buccal ventral gland in ruminants is an albuminous gland, furnishing a product of amylolitic secretion. In this it is classed with the parotid.

The dorsal median gland of the ox, with the orbital and the buccal glands of the carnivora, are pure mucous glands. Yet the fluid from these glands posesses a socharifying property very well marked in ruminants. They are from a physiological point of view, mixed glands.

The dorsal and median buccal glands of the sheep and goat are distinguished from those of the ox by their cells, which are not evenly mucous. They are either more or less so, or not at all. However it does not appear that they ought to be althogether considered as mixed, but more as mucous glands subject to variations in their functions.

The buccal glands of the horse and those of swine resemble those of the sheep more than those of the ox, but differ from them in some of their characters. They are special mucous glands in which the functional variation and the division of labor are carried to a fine point. They produce also besides mucine, an amylolitic ferment.

In relation to the mucous richness the buccal glands of the carnivora occupy the first place and then comes the ox with his dorsal and median glands, and then the swine. The sheep goat and horse occupy the lowest rank.—*Amer. Vet. Mag.*

Cribbing.

BY THEO. A. KELLER, D.V.S.

Although the abnormal action with horses known under the name of crib-biting is so frequently observed, it is still one far from being sufficiently understood. Many of our best veteinary authors have furnished opinions on this subject, but these present great variety touching the causes, seat, nature and consequences of crib-biting. Whilst one contends that in the act the horse swallows atmospheric air, another contends that the animal ejects air, which act is accompanied with a particular noise, created by gas generated in the stomach.

Some say that the habit is injurious to the horses that practise it, and that it frequently renders them valueless; while others maintain that it does not materially hurt them.

By this we are led to distinguish crib-biting into that which is acquired by habit (habitual), and that which is properly so called, and which is spontaneous.

The opinion which regards crib biting as discharging air from the stomach, similar to belching in ourselves, is evidently an erroneous one, since it implies that the act is one of absolute necessity. Now, it is well known that by various means we have it in our power to prevent crib-biting in some of our horses for a longer or shorter time, but in doing this we never hear of any evil consequences from its suppression.

Indeed, if such were true, horses ought to blow themselves out with the gas which, instead of eructating, they are now compelled to retain.

And, moreover, did crib-biting consist in eructation, gas might make its escape through the nose, and then the animal would have no occasion for that violent movement which characterizes crib-biting.

horses addicted to the vice, I reply without entering into any physiological considerations, that if by any means the crib biting be put a stop to for several months together, the horse digests quite as well without as with the vice.

The explanation given by one of our writers as regards crib biting partially supplies the reason of the difference of opinion, and is quite conformable to what one observes. He asserts that the crib-biter swallows air which he the same instant rejects; but that nevertheless in particular cases a portion of the air, having descended into the esophagus, does not reascend into the pharynx, but penetrates into the stomach, into which it is forced by the contraction of the wall of the esophagus.

Another writer who has written an admirable article on the subject, admits of the view of the matter taken by the above, which he explains in this way: The animal, when he incurvates his head upon his breast, he does so to gain the certain position in order to force a quantity of atmospheric air into the pharynx, and thus overcome, in this act, the natural impediment offered by the velum palati and fauces; the larynx is elevated, while coincident muscular contraction draws up the fauces to receive the swallowed air. At this moment the horse relaxes his effort, and then the air swallowed flows back and escapes with the characteristic sound. With old crib biters we may convince ourselves by auscultation that the sound attendant on the act is in truth produced at the moment of the evacuation of the air; and with horses in which the air reaches the stomach, a second faint supplementary sound may be heard along the esophagus, coming from the air entering the stomach cavity. This last sound has some analogy to the borborygmi of the bowels.

In this manner we may explain very readily how it happens that some crib-biters blow their bellies out so much in the act, while in others nothing of the kind happens; so that in some horses the vice really proves prejudicial, while others seem hardly decreased in real worth by it.

Numerous veterinary authors have sought the cause of crib-biting in the digestive organs, but in looking over these articles on the subject it is easy to see that they have collected exceptions to establish a general rule and have mistaken the effect for the cause.

In general, crib-biting ought rather to be regard as a habit than as a disease. Horses that are crib-biters, present the inconvenience of being slow feeders; they require a good deal of food to satisfy them, and those which generate air in their stomachs are very subject to attacks of meteorization. To obviate such inconveniences the following means have been recommended: either the ordinary crib-biting strap, or an iron **T**, whose branches so embrace the throttle as to prevent the horse arching his neck after the peculiar manner in which he prepares for the act and accomplishes it.—*Am. Vet. Mag.*

A Cancerous Papilloma.

Editor Veterinary Department MEDICAL REVIEW.—

I have a horse that has a wart on his leg which bleeds freely for a few days and then forms a scab over it, and in a few days it will begin bleeding again. It has been there for about twelve months, and now appears to be of a cancerous nature. Can you give me a receipt for same via personal letter or through the columns of the REVIEW. If so it will be highly appreciated. C. N. P.

N. B.—The cause of it bleeding at first was from the wart being excised, but it came back after being taken out. Now it appears to be of the nature of a cancer.

You neglected to mention the exact location of wart on the horse's leg; failing to do this the advice given can only be general. Cast the horse and inject into the wart hypodermically a four per cent solution of cocaine, then amputate; a pair of scissors are preferable to the scalpel as there is less hemorrhage. Heat a large iron in a blacksmith's forge bringing it to a white heat and burn deeply into the roots; if thoroughly done it will kill any wart. Very often these deep burns are slow to heal; in such cases take of sennine one ounce, vaseline five ounces. Smear over the burnt surface with the ointment, cover with bakum and hold in place with a bandage. Dress every other day until completely healed.

Paralysis of Nerves of the Larynx.

Editor Veterinary Department MEDICAL REVIEW.—

I recently bought a fine large draft mare and supposed her all right, but on driving her near the railroad she became excited and pranced around considerable. Finally she began to breathe hard causing a whistling sound like a steam engine which needed packing. Ordinarily she will trot at a good gate for several miles and show no signs of being wind broken. Do you think this can be a kind of nervous affection of her "breathing apparatus" or is it a case of ordinary heaves. And do you think any kind of a continued constitutional treatment would cure her? J. H. D.

Your horse seems to be rather peculiarly affected, the symptoms given approach more closely to paralysis of the nerves of the larynx than to those of vesicular emphysema (heaves). The trouble may be brought on by fright and is progressive in its nature. Heaves is caused by a rupture of the air cells in the lungs. The inspiratory act in this affection is normal, but the act of expiration, by reason of the rupture, becomes a double one; this abnormal expiration causes a tickling of the vocal chords and fauces which produces a cough, the pecular cough, which is constant, and the double expiration are the diagnostic symptoms of heaves. Your horse's ailment might perhaps be benefited if the case is intelligently treated. Would therefore refer you to Dr. John Meyers, of your city, who is an able and qualified veterinarian, to have the horse examined.

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ORIGINAL ARTICLES

A Few Remarks on the Early History of Rectal Diseases.

BY S. G. GANT, M.D., KANSAS CITY, MO.,

Professor of Diseases of Rectum and Anus, University Medical College, Lecturer on Diseases of the Bowels at Scarritt Hospital and Training School; Rectal and Anal Surgeon to All-Saints Hospital, and K. C., and Ft. S. M. R. R. System, Etc., Etc.

Read before the Mississippi Valley Medical Society at Hot Springs, Ark., November 23, 1894.

MR. PRESIDENT AND MEMBERS OF THE MISSISSIPPI VALLEY MEDICAL SOCIETY:

GENTLEMEN—In the selection of historic medicine for my subject I am well aware that I have chosen one that is rarely touched upon in medical societies and the current literature of the day. The study of the history and progress of medicine has ever been of great interest to me. I well remember when holding down the benches at college how the class used to enjoy a brief change from our routine lectures, when one of the professors would tell us about the heroes of medicine hundreds of years ago, and how such men as Hypocrates, Celsus, Galen and others of the Ancients practiced the art and science of medicine, we listened attentively and marveled at their accuracy of diagnosis, and the practical manner in which they effected a cure; this too, with their meager knowledge of anatomy and physiology. The science of medicine and surgery extends its inquiries over such a vast field and comprehends such an enormous mass of facts and observations that it would be impossible in a paper of this length to give more than a brief resume of the history of one special department of medicine, which I trust will be of some interest to this Society, viz., that of rectal diseases. I believe with that scholarly physician, William Bodenhamer, that there is no class of diseases within the whole range of medical literature which has a more ancient history, a hoarier antiquity, and a more conspicuous sacredness than some forms of rectal disease. In fact, the history of this class of diseases embraces all ages, including Hebraic, ancient and modern history. Medical men have from the time of Adam on down to the present day devoted much time and study to these diseases. The first recorded mention of rectal diseases that we know of was made by Moses, the law-giver. This can be found in the fifth book of the old Bible. After explaining to the Jews the manner in which they would be rewarded if they strictly carried out the laws of God, he goes on to say, "and if thou wilt not hearken unto the voice of the Lord, and observe his commandment that all these curses shall come upon thee." He then records a number of curses; the only one of interest to us, however, is the following: "The Lord will smite thee with the botch of Egypt and with the emrods (hemorrhoids), whereof thou canst not be healed." Now, if we turn to 1st. Samuel, fifth verse, we find the following bit of interesting information. He tells us that the Philistines took the ark of the Lord from Ebenezer and brought it unto Ashdod, and forthwith the hand of the Lord was heavy against them, and "he smote the men of the cities both small and great, and they had the emrods in their secret parts." Again, in Psalms LXXVIII, verse sixty-sixth, we find recorded that he smote his enemies in the hinder parts. The ark of the Lord was then removed to Gath and Ekron with the hope that the plague (emrods), would be removed but such was not the case; on the contrary, these cities were alike afflicted. The people then began to seek a way in which they might rid themselves of their afflictions, and to this end they sought out the priests, and inquired what they must do to obtain relief. It is of interest to note the manner in which the cure was effected. It appears that after consultation, the priests and diviners told the people to return the ark of the Lord to the Israelites from whom they had taken it; but it must not be returned empty. They must make a trespass offering of five golden images of the "emrods," according to the number of the Lords of the Philistines; "for one plague is on you all and all your lords. Do this and thou shalt be healed." It is stated on good authority that the natives in the far East at the present time make images of their afflicted parts and offer them to their Gods as a trespass offering, and believe that through them alone can they obtain relief, many of their places of worship being burdened with such offerings. From the fact that the Israelites were threatened with the plague previously referred to, some writers

ple. They teach that this malady is inherited by the Israelites, and that it is entailed upon them and their posterity forever, because of spiritual disobedience. From my limited study of Hebraic and Ancient history together with my personal experience in the treatment of these diseases among all races, both in private and hospital practice, I have been unable to obtain any evidence to substantiate such a claim. On the contrary, I have had ample opportunity and have noted that the Jews are no more liable to be afflicted with rectal diseases than other people. Again, there is not a single instance in the Bible where it states that the Israelites ever had this threatened punishment inflicted upon them. On the other hand, there is abundant evidence to show that the plague with which the Jews were threatened was visited upon the Philistines some three hundred years thereafter, for stealing the ark. In view of the limited evidence at our command I believe we are justified in concluding that the Jews are no more liable to be afflicted with any form of rectal disease as a result of divine punishment, than are the Gentiles. Unfortunately, we have no definite knowledge of the exact pathological meaning of the Biblical term, "emrods," so frequently mentioned in the Scriptures. This is owing to the wide diversity of opinions of the Biblical commentators. Some took it to mean a disease similar to bleeding piles; others, that there was a prolapsus of the bowel which remained out until it became putrid and sloughed off; and others took it to be some form of dysentery, and not a few that it was of a fistulous nature. The Greeks, Hypocrates, Galen and others evidently thought it to be a diseased condition of the rectal veins, accompanied by hemorrhage, for they substituted the word hemorrhoids for the scriptural one, "emrods." Ever since that time hemorrhage from the rectum has been diagnosed as such. It would appear from the writings of the Ancients that some thought the hemorrhage active; others, that it was passive. It seems that they never mentioned anything about swellings or protrusions. According to our more modern teaching the term hemorrhoids is applied to almost any swelling about the anal region, no matter whether there be hemor rhage or not. So it at once becomes evident that this term as used by the earlier writers was a misnomer, and did not express the exact pathological condition present, only the most prominent symptom. Leaving Hebraic and turning to that of ancient history we find frequent mention of certain forms of rectal disease, also the plan of treatment adopted. It is gratifying to note that in many instances the treatment suggested by the Greeks, Hypocrates, Celsus, Galen and Rhazes and Abbas, the Arabian physicians, and others of the Ancients is practiced by the surgeons of our time with very slight modifications. This demonstrates the fact that they were not altogether wrong in their pathology though they were lacking in the knowledge of anatomy and common forms of rectal diseases. Fissures were described ass uperficial erosions or cracks, or chaps, and being slow to heal the treatment consisted in converting them into recent ulcers by paring, scarifying or incising them with the finger-nail or scalpel, when they were made to heal by topical applications. Hemorrhoids were ligated as to-day except that the skin was not severed to prevent after-pain. Those who did not favor the ligature method used the cautery by puncturing the tumors, in addition to which various drugs were used locally. Fistula was accurately described by Hypocrates (?) Celsus and Galen, and so far as I can find out their treatment consisted principally of setons and the local application of drugs. Many of the Ancient writers believed that divine power must be enlisted in order that a cure might be effected in the various forms of rectal diseases. Others believed than an amulet was necessary, that to carry something in their pocket, a piece of metal, a precious stone, or a certain kind of nut or vegetable would cure them, and this practice is not abandoned to-day. For, many of our own countrymen carry with them a buckeye or horse-chestnut when suffering from piles or fistula, as an "amulet" for their relief or cure. Many patients have told me of remarkable cures effected in this way. The Irish potato comes next in favor to the buckeye, and it must be dug out of the garden when the moon is "right," put in the left trouser pocket, and is never to be removed under any circumstances. After a time they shrink up until they are no larger than a pigeon egg and are as hard as a rock. Then they will cure the worst case of piles. From the time of the Greek writers down to about the fifteenth century there is nothing recorded that would be of especial interest in this paper, but, about this time, or a century later, the writings about different rectal diseases were very prolific and have continued so ever since. The reason given why the surgeons previous to this time said nothing about this class of diseases, was because of the false delicacy in those who had them in not letting it be known. Again, in olden times most rectal diseases were considered incurable, and for a person to have an incurable disease was to have a disgraceful one; hence, these persons suffered on in silence lest they reveal their disgrace, and be ostracized by society. We find a very interesting instance of this in a treatise on "The Fistula of the Anus," originally written in Latin by John Astruc about 1715, the first individual work of the kind ever written, a copy of which I possess and value very highly. He says of late years (about 1700) a case of fistula was scarcely seen or heard of by the physicians of the last age. But when once Louis XIV. King of France, labored under this complaint it became fashionable, and a vast multitude of these cases suddenly presented themselves and after the King's example every one made an open and voluntary confession of this once secret disorder. He then records a parallel case by

cholic first showed itself, nor did one man in Rome ever complain of this disorder until the Emperor had been severely attacked by it. Fistula in ano has been immortalized by Shakespeare in his play, "All's Well That Ends Well," based upon the King's having a fistula. This play is said to have been written in 1606. Again, the great historian, Hume, in writing of the death of King Henry V., who died about the year 1422, says he was seized with a fistula, a malady which the surgeons at that time had not the skill to cure. It is said that Louis XIV. deferred having an operation by the knife for many months though his attending surgeon, Monsieur Felix, insisted that such an operation was necessary if he anticipated a cure. As soon as the laity became aware that their sovereign was suffering from a fistula many cures were suggested by physicians, priests and others who claimed that they had effected many remarkable cures by their respective methods, and who took this opportunity to gain His Majesty's favor. After deliberating he determined to give each one a chance to prove his assertions, but he was too long-headed to have the experiments tried on his own person. He set apart a wing in the palace and placed a number of his subjects in the various rooms who were suffering from fistula, and all of the various remedies suggested, together with a number of mineral waters said to always effect a cure in fistula cases, were given a trial. Not in a single instance was a cure effected. At last the King, to whom Monsieur Felix gave an account of the experiments, determined to have the operation performed. One morning when nothing of the kind was expected by the courtiers, it was done, several incisions being made. This happened on November 21, 1687. The cicatrization was well managed and the King perfectly cured. His Majesty royally recompensed Monsieur Felix and his assistants, the total amount of the fee being seventy-three thousand and five hundred dollars. These were "royal days for surgeons," says a writer in the *Medical-Chirurgical Review*. Immediately after the King's recovery this disease became fashionable and hundreds of people flocked to Monsieur Felix to be operated on for this complaint. It is even hinted that certain courtiers who previous to this time had concealed their afflictions, selected Versailles as the place to be operated on, for here the King could hear of their indisposition. One writer goes so far as to say that some of them did not have fistula at all, and were much put out when informed that an operation was not necessary. My paper has now reached such a length that it would burden you should I endeavor to even mention the various operations and methods of treatment that have been brought forward during the last four or five hundred years. The investigations of the various important diseases affecting the terminal portion of the colon has during this time been prosecuted with very considerable ardor, and the advantages gained in consequence have been markedly progressive; for this knowledge we are indebted among others to

BY ROBERT BARCLAY, A.M., M.D., ST. LOUIS, MO,

Member of the American Otological Society; Formerly Assistant Aural Surgeon, New York Eye and Ear Infirmary, New York; Aural Surgeon, St. Louis City Hospital, Missouri Pacific Railway Hospital, St. Louis Hospital, St. Mary's Infirmary, South Side Dispensatory, Mariæ Consiliæ Deaf and Dumb Institute, House of Good Shepherd, Etc.

Read before the St. Louis Medical Society, November 17, 1894.

A case of ear disease, which has stubbornly resisted the curative influence of ordinary medicinal treatment for many years, is popularly deemed hopelessly incurable; and, as honest men will not take advantage of the credulity of those whom they believe to be beyond their professional assistance, the case is liable to be avoided and even declined by medical practitioners generally.

But, sooner or later, such a harmless ear case undergoes a change for the worse; and may gradually or suddenly lapse into a condition where the patient ceases to be serviceable to himself or others, or his affliction becomes intolerable. Then, attendance is no longer optional: Medical assistance is imperatively demanded; active interference indicated, and *something must be done* to check the destructive process hastening to its fatal close. We must, at least, mitigate the suffering, although we may scarcely hope to cure.

The management of a considerable number of such cases—long condemned as hopeless, some of them diseased already twenty to forty years—has devolved upon me; and their unusual behavior—so remarkedly better than that which might originally have been expected—has suggested the thought, that our popular impression as to the incurability of such cases may perhaps be erroneous; and that a more careful search for the particular indications for each individual case might, perhaps, give us, generally, far better results than heretofore, and justify a more hopeful prognosis than is, at present, almost universally popular.

With a view to encouraging you to undertake, somewhat more hopefully, the management of these seemingly hopeless cases, allow me to review, very briefly, the history of several—quite typical—that have come directly under my care.

They are cases of otorrhea—chronic suppurative otitis media—where the ear has been discharging, in the usual manner, for thirteen, twenty, twenty-five, thirty, and forty years, respectively.

The first one—where the duration of the disease, before our first consultation was thirteen years—does not in strict propriety, belong under the title selected for this address; but, inasmuch as it can serve to demonstrate to you, so conclusively, the grateful possibilities of such cases, its introduction here—an afterthought—has been hazarded, with the hope that this may not be deemed a careless affront to your better taste. The history of the case is, briefly, as follows:

INTERCURRENT SCARLATINA.

103354.—A schoolboy, fifteen years old, came to me for removal of a cotton pellet, which had become deeply displaced within his right ear, and for subsequent treatment of a purulent otitis media already of thirteen years' duration. Eleven years before, a polypus had been removed from the affected ear. His complaints were, principally, of whistling and blowing tinnitus, autophony, severe deafness and fetid aural discharge.

On examination the drum head was found destroyed, except at its anterior edge, wherein seemed to be embedded the malleus, its posterior attachment apparently long severed. There was no sign of incus or of stapes. A cotton wad was discovered projecting from the tympanic attic, and was forthwith removed. The walls of the middle-ear, except at the tip of the promontory, then appeared, lined with polypoid tissue, covered with pus and whitish desquamated epithelium.

Medicinal treatment promptly brought about disappearance of the polypoid tissue and cessation of the discharge. Within five days after beginning treatment, the tinnitus had ceased, and hearing had so far improved that a forty eight inch watch, for instance, could be heard, by the ear, at two inches' distance therefrom.

Three months later he contracted scarlatina, which was followed by a recurrence of his otorrhea. Treatment was resumed, and within the following month the middle ear tissues were so far dried and hardened, that he was permitted to visit Europe. At that time, he could, with the affected ear, receive from the Bell-telephone, and, at twenty five feet distance, hear a loud voice.

There has been no recurrence whatever of his aural trouble since his dismissal then—more than five years ago.

Our next case:

EARS DISCHARGING FOR MORE THAN TWENTY YEARS; OPERATION; CURE OF ONE EAR WITHIN A FEW DAYS; OF THE OTHER WITHIN A FEW WEEKS.

104874.—A farmer, twenty-five years old, had been subject to a bi-lateral otorrhea from a very early age—variously estimated by his parents and grandparents as from nineteen months to four years; so we may properly consider the case one of bi-lateral otorrhea of over twenty years' duration.

After undergoing treatment elsewhere, two years previous to our consultation, the otorrhea had ceased for awhile; but the healing power of the left side had diminished; while the inflammation, which soon recurred, assumed a more virulent form on the right side. Latterly, there had been a very offensive, brownish discharge, occasionally varied by a marked hemorrhage from the right ear, and deafness had grown still more marked. Moreover, the torment from tinnitus, autophony and neuralgia of the right ear had been still further increased by the development of a vertigo,

day, more severe and constant until, finally, he had been compelled to quit work and recreation, and seek medical assistance.

On examination a large polypus, growing apparently from some point above, was found filling the bottom of the right auditory canal and bathed in fetid, brownish discharge in the left ear, the entire posterior half of the drum-head was gone, and the inner tympanic wall and the passage from the attic above were coated with pus.

After the affected parts had been cleansed and dressed with antiseptics for a day or two, the polygus was removed from the right ear, its pedicle carefully eradicated and its base, on the auditory-plate of the roof of the osseous canal, thoroughly scraped. The drum-head seemed wholly destroyed, and the handle of the malleus, its flattened lower tip missing, was denuded and retracted. After all the involved parts had been carefully cleansed, a dry antiseptic dressing was applied. This ear was perfectly dry upon the third day thereafter, and has since remained so, with rapidly improving hearing.

Four days after the first operation the remains of the drum head, together with the malleus—which you see here—was excised from the other ear. Although carefully searched for the incus was not found—and it is believed that it must have sloughed away long before—the incus, as a rule, being the first of the auditory ossicles to be cast off in these long neglected cases of chronic tympanic suppuration.

Vertigo promptly disappeared; headache troubled him no more after the second week; and the discharge ceased with the operation. Upon the sixteenth day after the operation a forty-eight-inch watch was heard by this ear at three, by the other at two inches distance. The patient soon regained his elasticity of spirits, his usual vigor and appetite, and his hearing to a degree fully equal to that that he remembers to have had at any time in the past. Before the month had elapsed, and before the hardening of the tympanic mucous membrane had been completed, he was permitted to return to his home and resume his occupation.

Our next case:

Ear Discharging for About Twenty-Five Years; Cure Within About Ten Weeks.

404115.—A man, thirty-four years old, came seeking relief from symptoms of subacute catarrh of the right ear, and incidentally and unconcernedly mentioned the fact that his other, the left ear, was almost totally deaf, and had been discharging since he was about nine years old—that is for about twenty-five years.

On examination of this left ear several large polypi were found filling the middle-ear. The walls of this cavity were filled with polypoid tissue.

The nares, pharynx and teeth were in a sadly neglected state of chronic inflammation, for treatment of which he was referred to other practitioners.

Within less than ten weeks, under careful aural treatment, the discharge had entirely ceased, and the lining membrane of the tympanum undergone dermoid transformation, when he was dismissed cured.

Since then there has been no recurrence of his trouble, and on recently examining his left ear, the parts were found dry and clean, as at the time of his dismissal more than two years ago.

Our next case:

Ear Discharging for About Thirty Years; Operation; Cure in About Four Weeks.

404637.—A gentleman, thirty-five years old, at our first consultation, stated that one of the things among his earliest recollections was that of having had his affected ear frequently syringed by his mother; while he recalls having first noticed his aural discharge as such at about the age of eleven years. We may, therefore, perhaps, regard his aural trouble as of about thirty years' duration.

Besides a very offensive discharge, and practically, total deafness, considerable neuralgia latterly of the left ear had increased his discomfort, and vertigo, flushing of the head and face, and headache had become so frequent and pronounced as to interfere with the proper pursuit of his vocation.

On examination the whole inner end of the auditory canal and the tympanum were filled with raspberry-like redundant growth over which oozed very fetid, muddy looking pus. The tonsils, which were hypertrophied, were at the time suffering from one of their occasional attacks of the subacute inflammation.

After the redundant aural tissue had been disposed of the remains of the drum-head and the malleus and incus (which you see here) were excised, the ear being thereafter cleansed and dressed with dry antiseptics.

The subjective symptoms promptly disappeared, the otorrhea ceased with the operation, and the patient has recently reported that there has been no recurrence whatever of the trouble since his dismissal—about four weeks after the operation.

The last, the oldest and the worst case:

Ears Discharging for More Than Forty Years; Cure Within Nine Weeks.

404117.—This man, forty-four years old, has been afflicted with bilateral intermittent otorrhea since babyhood—that is, for more than forty years. Hearing was at times muffled and indistinct, without definition, and there was autophony and tinnitus. Latterly he has suffered from—as he expressed it—"shooting pains from the ears up through the head," more intense on one side at a time, frequently alternating as to sides. He complained of daily morning headache, sometimes persisting through the day—"a feeling as if a stone were pressing on his head and back of his eyes." And vertigo, which developed, together with mental hebetude and his other symptoms, compelled him to quit work altogether and seek medical assistance.

On examination there was found missing from the

the tympana were both discharging fetid pus.

By administering treatment himself at home, as directed, while he visited me but three times, his left ear became perfectly dry within the month, the discharge from the right ear having become by that time very slight, while the hearing power had greatly increased. Three more office visits, together with home treatment, as directed, sufficed to perfect the cure of the right ear within a month.

As tested at that time the hearing for a forty-eight-inch watch was two inches for the left, five inches for the right ear, and he could hear with the left ear an ordinary voice, with the right ear a low voice at thirty feet distance. Both tympana seemed perfectly dry, so he was dismissed, and no further return of his trouble has been reported, although more than two years have since elapsed.

When cases so unpromising as these respond so satisfactorily to careful treatment, humanity demands of us for such neglected and hopeless patients a prognosis more favorable than that which we have hitherto carelessly allowed to become prevalent and popular. And it is hoped that those who, by these remarks, are encouraged to undertake, somewhat more hopefully than heretofore, the closer study and management of these unpromising aural cases, may be rewarded with results still more gratifying than those detailed above.

In conclusion I would express regret at the incompleteness of this address to which I thank you for having given such kind attention.

NOTE.—Reported in another form as Case VI, in "Practical Suggestions on the Removal of Foreign Bodies From the Ear," in the New York *Medical Journal*, July 15, 1889.

The Brutality of Foot-Ball.—The events of the past week have most thoroughly discredited the game of foot-ball as at present played (*Med. Record*). The contest at Springfield between the Yale and Harvard teams was one of the most unwholesome performances that ever masqueraded under the name of amateur sport. Players slugged into unconsciousness, eyes nearly gouged out, brains concussed, disabling sprains and bruises constantly interrupted the progress of the game, which even an ex-ball player and friend of the sport declares to have been characterized by "sickening brutality." Besides this we hear of a student made insane through injuries received in playing, and two fatal accidents are reported. The number of young men who are permanently injured who go through life more or less crippled in consequence of foot-ball playing can never be known. We should be sorry to see foot-ball abolished altogether from our colleges. There is no game that equals it in many ways when played as a manly sport and not for gate receipts. But the new rules are plainly ineffective, and unless some change can be made, the game really deserves to be placed under the supervision of Boards of Health working in co operation with an efficient police.

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The History and Present Status of the Blood Serum Therapy.

In order to fully understand the possibilities and limits of the epoch marking discovery, the blood serum therapy, and the role it will undoubtedly be destined to play in the treatment of infectious diseases, a knowledge of its development and present status are indispensible.

This development begins with the discovery of vaccination against small-pox by Jenner, nearly a hundred years ago, which was purely accidental, and its application not based upon logical and scientific research and reasoning but an empirical procedure.

Pasteur was the first who placed vaccination upon a scientific basis and developed it by logical experiments. He found in 1880 that cultures of the bacteria of chicken cholera, which are a deadly poison to chickens, lose much of their virulency after they have been exposed to the air for months and when such weakened cultures are injected under the skin of chickens they will no longer die but will acquire a local disease and after recovery they are refractory or immune against the virulent culture. The same behavior was found in the instance of other diseases, anthrax, rauschbrand, etc. Such weakening of bacteria cultures takes place when-

ever they are placed in surroundings that are unfavorable to their development. It may be accomplished by the addition of certain chemicals, for instance sulphuric or carbolic acid, bichromate of potassium or the exposure to a certain degree of heat, a high or a low temperature, or by drying. The latter procedure being used in the production of a protective virus against rabies, a disease, however, whose cause is not known.

This weakening of pathogenic bacteria may also be accomplished by cultivating them upon successive nutrient media or, as Pasteur first observed, by allowing them to pass through an animal which is but little susceptible to the respective disease. Cultures of many pathogenic bacteria that have been subjected to these various procedures do not exhibit any other change in their biological characteristics than on impaired virulency. In some cases, however, this impaired virulency is only one of the signs of a general degeneration.

Various hypotheses have been offered by different authorities about the processes and changes that take place in the body in consequence of artificial immunization. Klebs and Pasteur explained immunization by a weakening affect, an exhaustion or removal of something from the body, in consequence of which the growth of certain pathogenic bacteria in the body becomes impaired or is prevented.

Chauveau explained immunization by the retention in the body of metabolic products of bacteria, while Metschnicoff based his hypothesis upon the process of phagocytosis, supposing that the leucocytes and connective tissue cells become gradually accustomed to fight the weaker forms of pathogenic bacteria so that gradually they would become trained to destroy the more virulent forms. These were the main hypotheses offered to explain immunization, each finding more or less enthusiastic adherents until in 1887 Salmon and Smith found that immunization was possible without the use of weakened bacteria cultures and that the metabolic products of bacteria, the toxines, the chemical nature of which was first determined by Roux, Pasteur's assistant, are alone capable of producing immunization so that the whole question of immunization was then carried into the almost exclusive domain of organic chemistry.

The scientific controversy regarding immunity which is a very voluminous one has not been settled up to the present day. Klebs's and Pasteur's hypothesis has been entirely abandoned and Metschnicoff's hypothesis, which has created the greatest interest and discussion does no longer seem tenable, although it cannot be denied that phagocytoris is one of the methods of defense against the invasion of bacteria.

Chauveau's hypothesis found support in the important investigations of Buchner, Frohmann, Fodor, Nutall and Behring, that the fluids of the normal living body of various animals have bactericidal properties. When cultures of some pathogenic bacteria were placed into fresh animal blood a large part of the bacteria died. The bactericidal property of the blood then gradually diminished until after a few hours the bacteria which

harmless substance. Active immunity is of comparatively long duration, passive immunity of relatively short (probably not more than a few weeks) duration.

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The tendency of scientific research has been running in grooves indicated by Pasteur and Koch for the last ten years and a great many investigators have been experimenting in a similar direction as the result of which serum therapy has so far turned out to be the most practical solution of the problem of artificial immunization. As an illustration of the tendency of the past decade we may for instance recall an experiment of Emmerich, who in 1891 immunized rabbits after Koch's method, injecting successiveiy more and more virulent Erysipelas cultures. The immunized animals were killed and deprived of their skin, chopped into fine pieces by means of a machine and expressed by placing them under a pressure of three or four hundred atmospheres. By the injection of the expressed fluid Emmerich was able to heal every case of erysipelas in white mice and rabbits, provided that the animals had not been infected with erysipelas cultures longer than 24 hours. By simultaneously injecting the cultures and the healing fluid the disease was entirely prevented. Emmerich was acquainted with the healing powers of the body fluids of artificially immunized animals as early as 1887.

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The investigations of Behring and his associates were the first to show that the blood and the blood serum of individuals artificially immunized against a certain disease, have the property of transferring this immunity to individuals otherwise susceptible to that particular disease. In 1890 Behring and Kitasato published in the *Deutsche Medizinische Wochenschrift*, No. 49, the results of their experiments regarding the immunization against tetanus. They had found that the blood serum of rabbits, which had been immunized against tetanus, had the property of immunizing mice, which are ordinarily very susceptible to this disease. The cause of tetanus, the tetanus bacillus, belongs, like the diphtheria bacillus, to that class of bacteria which have been designated as toxic in contradistinction to those, which produce a deleterious effect by their numbers and not so much by the production of specific poisons or toxines. The tetanus bacilli, after having entered the tissues, multiply rapidly and produce the tetanus toxin, which is a chemicul substance, soluble in the fluids of the body.

Behring and Kitasato found that this toxin is made innocuous in the animal body as well as in the test tube as soon as it comes in contact with a certain quantity of the serum of animals that have been immunized against tetanus. This property of the immunizing serum is due, according to Behring, to a substance ria antitoxine possesses an analogous property as to the neutralizing effect upon the diphtheria toxine. Both possess a great resisting power against physical and chemical influences.

The discovery of a healing serum against tetanus has been the starting point of a large series of investigations, whose object was to determine to what extent the blood serum of artificially immunized individuals would be efficacious or applicable in the treatment of disease. In these investigations it has been ascertained that the law formulated by Behring, that *the blood serum of individuals that have been artificially immunized against a certain infectious disease, develops immunizimg or healing qualities in the body of another individual against the same disease*, holds good in every instance, for in every case of artificial immunity the blood serum was capable of transferring immunity to a susceptible individual (Karl Guenther in *Deutsche Menizinische Wochenschrift*, 1893, No. 46). It has also been found that the blood serum of individuals, who possess a natural immunity against a certain disease contains no immunizing substance as is the case in the artificially immunized individual. For the interpretation of the condition of natural immunity in contradistinction to artifical immunity, nothing positive is known at the present time.

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An analogon to the antitoxic property of healing serum as prepared by Behring has been discovered by Ehrlich, who found in 1891 that the above cited law of Behring is also applicable to vegetable poisons. He was able to immunize mice against ricin (an intensely poisonous albumin of the castor bean) and abrin (the toxalbumin of the jequirity bean) by feeding them with gradually increasing doses of these drugs, and with the blood of these immunized animals other animals could be made refractory against the poison, moreover, as in the case of the tetanus and diphtheria healing serum, the blood destroyed the poisonous properties of the respective drugs in the test tube.

In the serum of these immunized animals Ehrlich found an antitoxic substance (antiricin and antiabrin) which possesses the property of neutralizing the poisonous action of ricin and abrin. Of interest in this connection is also the fact that while the chemical similarity of these poisons is so great that formerly they were supposed to be identical bodies, Ehrlich has proven by his investigations, that ricin and abrin are two entirely different chemical bodies, for animals that are refractory against ricin are as sensitive against abrin as animals that are ia a perfectly normal condition and *vice versa*. Almost identical results have been obtained by the same author with robin, a ferment obtained from the bark of the acacia tree.

It has also been shown by Ehrlich that immunizing substances of the blood pass into the milk and that nursing may produce immunization and that immunity

against a poison is communicated to the offspring by the mother and not by the father. Two factors play a role in the production of inherited immunity: 1. The passing of immunizing substances from the maternal to the fetal blood. 2. The appropriation of these substances in nursing.

For determining the question of immunity an experiment of P. Giacosa is of interest. As chickens are exceedingly refractory against strychnia nitrate, being able to take 0.6 grammes and even more without succumbing, P. Giacosa injected chicken blood serum into the peritoneal cavity of young white rats, guinea pigs and rabbits and a short time afterwards a weak solution of strychnia. The animals thus treated had not acquired the slightest protection against the poison. Identical results have been obtained by other investigators with toxines.

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The investigations of Behring and his associates have also furnished us with an explanation for the spontaneous cure of infectious diseases. In all probability this is effected by the formation of antitoxins in the blood of the patient, which make innocuous the cause of disease, the bacteria and their poisonous products, the toxins. It has been found by the clinical investigations of Klemperer, Stern, Lazarus, Klemensiewicz and Escherich that the blood serum of people who had a recent attack of pneumonia, typhoid fever, cholera and diphtheria has an immunizing effect upon animals, and Behring has already announced that he has prepared a healing serum against typhoid fever and is ready to distribute it and have its worth tested by clinicians.

The immunizing power of the blood serum of immunized individuals varies with the difference between the immunity of these individuals before and after immunization; the more susceptible an individual is to a certain disease the greater will be the immunizing power of its blood against that disease, after the individual has been subjected to the process of immunization. Upon this law is the preparation of Behring's healing serum against diphtheria conducted. Sheep come nearest to the requirements of this law, but on account of their comparatively small size horses are now used instead.

Of great interest is the tribute paid by Behring to his teacher Dr. Koch, as to the latter's influence upon the evolution of serum therapy. In the *Deutsche Medizinische Wochenschrift*, 1894, No. 85, Behring makes the following statement:

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"The methods of immunization of animals for the purpose of obtaining healing serum are a splendid confirmation of Koch's scientifically established fact of the healing action of the gradually increasing doses of the poison against which we wish to protect an individual. In horses, cattle, sheep and goats one may observe during the gradual injection of living cultures of diphtheria as well as of its poisonous products, that the animals become chronically sick, have remitting fever, fall off and get into a cachectic condition which gradually leads to death unless gradually increased doses of the diphtheria poison are injected after the method of Koch's tuberculin injections.

"This fact, paradoxical as it may appear upon the first glance has been known to acute observers even before the beginning of modern research, although then it had no scientific experimental foundation. Hunter and Sydenham have drawn attention to this fact, but it was particularly Bretanneau who had a very clear conception of the relation of immunization to the healing process."

Bretanneau made the following statement, translated by Behring: "Through Rosari we have learned the fact that with gradually increased dosage of tartarus stibiatus this drug will no longer cause vomiting. We know furthermore that in consequence of the use of one of the strongest poisons, arsenic, habitual arsenic eaters gain beauty, health and increased strength and that rider and horse upon steep roads after the habitual use of arsenic may a long time travel fast without becoming tired. Opium in Turkey becomes the spring of hilarity, well being and belligerent courage upon the taking of doses that would infallibly kill a person not used to the drug. Also the luxury of opium smoking belongs to this category, it has attained such importance that it has caused a powerful revolution in China. And our passionate tobacco smokers—do we not see them pass into ecstasies in their tobacco intoxication, and is it not something very common to see them inhale and fill their lungs with smoke saturated with nicotine without suffering damage from a poison which is worse than that prepared by the sorceress Circe!

"But in those parts of the world where man has not yet accustomed himself to these articles of luxury we miss the agreeable features, for alcohol intoxication and small pox poison (which lose their danger also when men become accustomed to them) have almost destroyed the nations of North and South America. The disease matter which enters our body and multiplies may so act that every particle of it which is gradually absorbed exerts a weakening influence upon the action of the virus in its entirety. It is for this reason that at times of epidemics physicians with a large practice, going from one patient to another, and thereby taking up fractions of doses of the virus, attain a considerable immunity whose production, I must admit, is as a rule little understood."

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In Germany as well as in France the blood-yielding horses are now no longer immunized with living cultures, but with diphtheria poison that has been freed from germs.

The following is the process for the manufacture of the diphtheria healing serum used by Roux in Pasteur's laboratory, as described in the *Progres Medical*, 1894, No. 42, which with slight modifications is analogous to the method employed by Behring in Berlin.

"From a twenty-four hours' diphtheria culture upon solidified serum an inoculation is made upon peptone

37° C. These flasks contain an attachment which allows the passage of air over the cultures. (This is done because Roux found that the diphtheria bacilli form more poison if they are exposed to an abundance of air). After four weeks the flasks are taken from the incubators in order to free the bouillon from the living germs. If a sufficient amount of poison has been formed, the fluid, from which the germs have been removed, must be sufficiently strong that a dose of 0.1 ccm. will kill in twenty four hours a guinea-pig weighing 500 grammes. This poison is used to immunize the blood-yielding animals. In the beginning, however, the pure poison is not injected, but a poison weakened by the addition of Gram's iodine—iodide of potassium solution in the proportion of two parts of Gram's solution to one part of the poison. After the animal has attained, in consequence of this injection, a certain degree of immunity, it receives one ccm. of pure poison. In five days this injection is repeated, then, if a reaction no longer takes place, two ccm. of the poison are injected. The animals react upon the injections with fever and dowy swelling at the places of injection. After each reaction the antitoxines appear in the blood of the animal in larger quantities. In this manner the doses are increased until it is supposed that the animal has arrived at a sufficient degree of immunity, when some blood is gathered by opening the jugular vein and tested for its virulency."

The testing method is the same as the first method of Behring. A guinea-pig is injected with a certain quantity of serum and twenty-four hours afterwards it is injected with a half ccm. of a living diphtheria culture. This infection is so strong that an ordinary guinea pig will die from it in twenty four hours.

The serum is estimated to be of sufficient strength if 0.1 ccm. of the same protects a guinea pig weighing 500 grammes against the infection.

With this serum Martin has treated cases of diphtheria at the Children's Hospital of Paris. The injections were made in the region of the false ribs. Among 3,000 injections only three abscesses were observed. As a protective inoculation Martin recommends for children under ten years a dose of five ccm., above this age ten ccm. It is better to administer an injection too much than too little since the serum has been found to be absolutely harmless. As particularly suspicious of diphtheria Martin designates those cases of diphtheria, characterized by an abundant watery secretion from the nose, that occur in apparently absolutely healthy children during diphtheria epidemics and he advises to administer to all children during such epidemics a dose of 20 ccm.

A deleterious effect upon the kidneys Martin has never observed, on the contrary, while of the cases not treated with the serum two-thirds had albumin in the urine; this was the case only in 50 per cent of those subjected to the serum treatment.

The action of the serum is very prompt, but only in cases of pure uncomplicated diphtheria. If besides diphtheria bacilli, streptococci and staphylococci are present, the serum will only influence the diphtheria bacilli and the pathological changes in the tissues due to them.

In pure cultures of diphtheria Martin recommends the administration of 50 ccm. of serum in two or three injections and, in the cases in which a septic mixed infection is present, to increase the dose up to 75 ccm., a part of which is injected at three or four different times in three or four days according to the condition of the case.

To these recommendations of Martin we wish to repeat our statement made in an editorial of the REVIEW of December 1, that Behring does not claim any healing property for the serum excepting the pure diphtheritic process uncomplicated by secondary infections, but this will be healed in any case if tended to from the beginning.

Of 120 cases treated by Martin nine died. Of these nine seven died in less than twenty four hours after their admission to the hospital. The eighth case was complicated by a severe tuberculosis and the ninth by measles.

The method of estimating the strength of the serum now used by Behring was introduced by Ehrlich and is almost universally accepted and its results are no doubt more exact than those that can be obtained by the method still employed by Roux. It is based upon the fundamental principle that the antitoxin, upon coming in contact with the respective poison, neutralizes the latter. The quantity of serum which is necessary for this neutralization depends upon the quality of antitoxin it contains. Ehrlich's method of determining the strength of Behring's serum is the following:

A number of bottles are filled with a (for guinea-pigs) ten times deadly dose of diphtheria poison and to each of these doses is added the serum in gradually increasing quantities; for instance, 0.05, 0.1, 0.2 ccm., etc. These mixtures are hypodermically injected into guinea-pigs and the dose calculated by the absence of any symptoms of disease. If 0.1 ccm. serum neutralizes the ten times deadly dose, *i.e.*, a dose the tenth part of which will kill a guinea-pig in 24 hours, the serum is designated as a simple normal serum or one immunity unit (Immunitaetseinheit) or antitoxine unit. A serum which possesses this property in a quantity of 0.01 ccm. is ten times normal or contains ten immunity units in each ccm. The three kinds of serum which are prepared for the Color Works in Hoechst are always tested by this method and are 600, 1,000 and 1,400 times normal and are designated as Nos. 1, 2 and 3. The difference between Ehrlich's method of estimating the strength of the serum and that used in Paris is so great that it is impossible to give an exact estimate of the relative strength of the

serum prepared by Roux, after Behring's method, and that of Behring.

The serum containing a large amount of antitoxine is not so readily obtained as the weaker one. The serum containing 1,400 immunity units can only be obtained by frequently exposing the animals to dangerous diphtheria infection and after a lucky escape of the animals after years of treatment.

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Six hundred immunity units are supposed by Behring to be sufficient for an ordinary case of diphtheria, if the full amount is injected at once and in the beginning of the disease. They are pesignated by him as a simple healing dose. Each bottle contains one dose of serum which may vary in quantity and weight, but always contains the same number of antitoxine units, the quantity approximates ten cubic centimeters.

In very severe or long continued cases the serum No. 3 containing 1,400 antitoxine units is indicated. If this is not at hand it may be substituted by two doses of No. 1 (600 antitoxine units) administered twice a day and again the next day once or twice.

Much less of the serum is required to protect an individual that is not yet infected. According to Behring one-tenth of the ordinary healing dose is sufficient for this purpose. Behring accuses Aronson of having marked the serum which he (Aronson) prepares for Schering according to immunizing, not healing doses, thereby creating the impression that his product is of greater strength than Behring's, while it had been proven that the reverse is true.

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We find in the *Deutsche Medizinische Wochenschrift*, of Nov. 15, 1894, an article by Behring in which he states that at least 10,000 children have been injected in Germany with an immunizing dose of 60 normal units, (one tenth of a healing dose) and of these 10 children got diphtheria. He has therefore increased the immunizing dose from 60 to 150 units and upon the urgent request of practicing physicians, he had the firm in Hoechst put them up in extra vials of which each contains one dose. All cases says Behring, which are injected with 60 units for the sake of protection, that contract diphtheria, are of a mild type and are readily controlled by an ordinary healing dose=600 units.

In the Institute for Infectious Diseases of Berlin the mortality of all cases treated has been reduced to sixteen per cent, of those cases which were brought for treatment on the first two days of the serum, not one was lost. Dr. Kossel, assistant at the institute, is convinced that every fresh case of true diphtheria can be healed by the use of a sufficient quantity of antitoxine. Similar results are reported from the Kaiser and Kaiserin Friedrich's Hospital of Berlin.

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For the injection of healing serum Koch's syringe holding 10 ccm. is the handiest. After cleaning the syringe and canula by washing with absolute alcohol and removal of the alcohol by means of a 0.5 per cent solution of carbolic acid, the contents of a phial of healing serum are drawn into the syringe by gradually allowing the rubber bulb, with a finger on its opening, to expand. After the serum has entered the glass tube the stop cock is turned off and the canula is introduced into the skin, after it has been cleaned with alcohol. After opening the stop cock the serum is gradually pressed out of the syringe by gently compressing the bulb with the finger on its opening. When the canula has been withdrawn it is advisable to close the stitch canal by sealing it with cotton and iodoform collodion, because if the canula is large some of the serum is apt to escape from the opening.

***

Attempts have been made to manufacture the antitoxines directly from bacteria cultures without the intervention of an animal and Nencki, of St. Petersburg, claims to have succeeded in so modifying the culture liquid of diphtheria by means of electrolysis, using 100 to 120 milliamperes and exposing the fluid to this treatment for eighteen hours, that it will heal the disease in rabbits. Animals that have been infected with diphtheria poison are saved with this fluid after the symptoms of diphtheria have made their appearance, *i.e.*, 18 to 24 hours after injection of the poison. Behring and Aronson maintain, hower, that Nencki is mistaken in his conclusions and that the only way to obtain the entitoxine of diphtheria is through the blood of an animal.

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The accounts of the practical results obtained with Behring's serum that have been reported from Berlin, Paris and other centers of learning, are almost identical and apparently based upon strictly scientific observation, without betraying, thanks to the failure of tuberculin, too great an exaltation and enthusiasm, so that we must come to the same conclusion as Behring, Ehrlich, Martin (of Paris), Kossel and other clinicians, who have tried the remedy in hundreds of cases, that in every case of true and uncomplicated diphtheria, if used in the beginning of the disease, it will save the patient.

It is therefore not surprising to learn of the various places in which laboratories are equipped for the purpose of manufacturing the serum.

In the east of France a sero-therapeutic institute is being erected. Another at Milan, Italy. At Amsterdam serum is prepared by Prof. Forster. In Spain the preparation of serum has been begun in the municipal laboratory of Barcelona under the direction of Dr. Jaime Ferran. A bacteriologist of the U. S. Marine hospital service is now in Europe, familiarizing himself with the latest advances in preventive inoculation and has transmitted to the bureau a supply of toxine with which animal immunization is already begun. The New York Board of Health has made arrangements for the manufacture of healing serum and last, but not least, the St. Louis Board of Health has taken steps for the manufacture of the same. Some toxine having been ob-

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Judging from all these efforts alone it would appear that in the eyes of the profession the remedy is not supposed to be overestimated by those who have had an opportunity to test its merits. Nevertheless we ought not entirely ignore the warning against too much enthusiasm of men like Buchner, Seitz, Oertel, von Ranke and Bollinger, to which we have alluded in an editorial of the issue of December 1. From the newest accounts it appears that the remedy is after all not quite so harmless as has been claimed by Behring, for Lublinsky, of Berlin, reports a case in which he observed an eruption of the skin with intense pain in the joints and particularly in the hollow of the knee and a fever of 104° F. The child which was fully reconvalescent, began to complain of not feeling well on the eighth day after the injection and on the tenth day an exanthema appeared at the point of injection which spread over the whole body. The fever lasted six days. Lublinsky thinks that the complication is the erythema exudativum multiforme which occurs not infrequently upon vaccination against small pox.

Dr. Scholz, of Hirschburg, Silesia, reports two cases, his own children. On the the tenth day after the injection of serum an eruption similar to that described by Lublinsky made its appearance accompanied in one child by intense muscular pain and pain the joints principally the knees. Dr. and Mrs. Middledorph who had been injected for the purpose of immunization noticed a similar effect. It seems, hower, that these accidental complications are of little consequence, although they are apt to annoy the physician (as it did Lublinsky) who meets with this trouble for the first time and has not been made acquainted with it through the experience of others.

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In drawing conclusions from reports of cases treated for immunization as well as healing purposes it seems certain that serum therapy in the sense of Behring's method, will be the dominating treatment of infectious diseases of the future. But even if it should be replaced by something better or there should be a collapse as in the case of tuberculin, which, with the present facts before us seems impossible, the investigations made in this direction during the last decade, that have culminated in the revolutionizing discovery of the healing property of antitoxines, will be recorded as one of the, if not *the*, most important ones in the whole history of therapeutics and medicine in general.

Priority Claimed for the Conception of the Idea of Behring's Serum Therapy.

We have been informed by good authority that Dr. Nutall, of the Hygienic Institute of Berlin, claims priority for the original conception of using the serum he was Behring's assistant, and is pressing his claims for its original conception very energetically. If he is able to prove his assertions it is not more than just that he should receive due credit for his suggestion. Dr. Nutall is an American, a member of Johns Hopkins University, and author of "A Handbook on Hygiene."

A Half-Day at Little Rock.

We recently had the pleasure of visiting the Insane Asylum at Little Rock. It will be remembered that on October 2 this great building was struck by a cyclone. Although the work of reconstruction has been rapidly proceeding for some weeks, the wall having been already largely restored and the debris cleaned away, one's amazement is increased almost to incredulity in contemplating what the terrible violence of this, one of Nature's tantrums, must have been. It struck the central or administration portion of the structure, unroofing it and demolishing the tower which fell through the building. Dr. J. T. Ingate, the esteemed second assistant, was instantly killed. Drs. Robertson, the superintendent, and Wells, the first assistant, were but a few feet from him when the crash came. In looking at the wreck it seems a miracle that they escaped. If the cyclone had struck one of the wings, occupied by inmates, the loss of life would have been great.

Considering the number of dwellings more or less destroyed in the city, it seems very remarkable that the fatality was so small. The rapidity with which these are being rebuilt speaks well for the enterprise which characterizes this stirring little city, evidences of which are seen on all sides. It is a beautiful and flourishing place beyond what we expected to find it. Surrounded by beautiful hills, many of them capped by the various public buildings of the State and County, it is filled with pleasure homes and large yards, fine magnolias and oaks, nicely paved and busy streets.

We enjoyed greatly our half day's visit, which was made especially pleasant and profitable through the kind attention of our old St. Louis friend, Dr. Horatio Wells.

Association of Southern Hospitals for the Insane.—An association has been formed with the above name, and held its first meeting at Birmingham, Ala., on November 20, 1894.

Our Medical Students.—England has but 552 medical students; there are 8,000 in the German universities, but the United States has 13,000. We could loan England a few thousand and have plenty to spare. —*Medical Record.*

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening Nov. 17, 1894, the Vice-President, HEINE MARKS, M.D., in the chair.

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DR. ROBERT BARCLAY read a paper (see page 464) entitled

EARS HOPELESSLY DISEASED FOR TWENTY TO FORTY YEARS.

DR. A. B. SHAW, although not engaged in this particular specialty, said that he is naturally interested in all medical subjects, and should like to have heard something of the treatment in this class of cases.

DR. W. A. MCCANDLESS asked the essayist whether he did not attribute the good results in most cases to the removal of the necrosed bones.

DR. BARCLAY stated that the ossicles of the ears were not necessarily diseased, but the removal, in the cases where it was done, opened up the antrum of the middle ear, thereby establishing free drainage and destroying the pockets which could hold pus, or form a seat for putrefaction. Then, by opening up these passages, where the parts were no longer functionally active, we were enabled to get the remedies directly in contact with the seat of disease.

As to the remark of Dr. Shaw, the speaker said it was not his object to elicit a discussion of the therapeutics of the disease, but to hear the opinion of the members as to the prognosis in these cases. If the prognosis, now popularly prevalent, is worse than it should be, we should let the family doctors know it.

Then again, no two cases are exactly alike, and one of the greatest mistakes in treating ear troubles that are similar in symptoms is the employment of the same therapeutic measures. Of the cases reported, no two were treated alike. A more careful search for the particular indications of each individual case may possibly give better results.

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The discussion of Dr. Given Campbell's paper of November 3, was resumed.

DR. A. RAVOLD was called upon to discuss the paper. He said that he had obtained a specimen of the Klebs-Loeffler bacillus from a diphtheria patient at the City Hospital, and had prepared a culture in beef broth according to the method of Loeffler. It is the method described by Dr. Campbell in his paper, and according to it the specific bacillus may be separated very easily from the other micro organisms, and a diagnosis made in twelve hours. This method is of particular value in the trachea or far up in the nose.

The beef broth, or culture medium, is a solution prepared from Armour's or Liebig's extract of beef, to which is added some glycose and a small quantity of salt and peptone to keep it in solution. Ordinarily it takes four weeks to establish the virulence, but in the specimen prepared by the speaker, the solution became so virulent in three weeks that it was impossible to immunize the smaller animals with it. It was kept at a temperature of 40° C. for three weeks and then treated with the three iodides, but its virulency was not overcome to a sufficient degree to permit of its use in immunizing animals. An injection of the pure broth resulted in very rapid death, while the attenuated virus produced the typical post-diphtheritic paralysis. The bacillus itself is not injected, only the filtered toxine being used, and although no local manifestation—a false membrane—appears, the symptoms are those of diphtheria, and death ensues in the same manner.

DR. POLLAK.—How long will the soup keep?

DR. RAVOLD.—Almost indefinitely; as long as you keep it in a cool dry place so that no other micro-organisms get in and break up these compounds.

DR POLLAK.—Thus far it has been used only to establish a diagnosis of diphtheria?

DR. RAVOLD.—It is to establish a rapid diagnosis.

DR. HOOGAN.—What is the reason that your product became more virulent?

DR. RAVOLD.—From the greater amount of products given off by the micro-organisms. The toxine is used to immunize the animal, and then the blood of the animal is converted to an antitoxine.

DR HOOGAN.—Can the antitoxine be developed in the broth?

DR. RAVOLD.—No sir, it can not.

In answer to a question by Dr. Shaw, the speaker explained that in a suspicious case a tube of Loeffler's serum is inoculated by a swab which has been brought in contact with the membrane or sore throat. The tube is then placed in an incubator for twelve hours and kept at the temperature of the body. If it is a case of diphtheria the micro organisms will have developed by that time, and a diagnosis can be very readily made from the microscopic appearance, by an experienced person. To make the diagnosis more certain, a small portion of the colony may be stained according to Loeffler's method, with methylene blue and a small quantity of alkaline solution. Examination by the microscope makes the diagnosis easy.

DR. POLLAK read an article from the *Medical Record*, of Nov. 10, 1894, which was copied from the *London Lancet*. It was entitled "The Antitoxine Treatment of Diphtheria in Vienna," and is as follows:

At the meeting of the German Naturalists and Physicians, held last month, one of the most attractive subjects discussed was that of the paper of Profs. Behring and Ehrlich, on "Serum Therapeutics," and on "The

before the meeting, and the most interesting communication concerning this question was made by Dr. Wassermann, of Berlin. He was endeavoring to obtain information on the question of idiosyncracy as regards proclivity to, or immunity from an infectious disease. For this purpose he withdrew a quantity of blood from persons who remained healthy though surrounded by persons suffering from diphtheria, and studied the effects of this blood on the diphtheria bacillus and its toxine. He found that the blood of such healthy persons destroyed the toxine of diphtheria and neutralized ten fold its bulk of toxine. In eight persons, aged over 40 years, he found in seven the same anti-toxine properties of the blood, 87½ per cent; while the percentage of young persons possessing such antitoxic blood was lower and reached only 50 per cent of the children examined between four and fifteen years.

Dr. Paul Paquin thought that this new treatment for diphtheria would open up a new field in therapeutics, as it is based on physiological grounds and pursued irrespective of ordinary medication. The question of an early diagnosis—and it is usually positive in 12 hours—is of paramount importance. Adding to this the reduction in the mortality from 40 to 14 or 13 per cent and its value can not well be over estimated. These statistics seem to be absolutely established, and the remedy accomplishes more than all the other methods of treatment combined, and that too without the slightest effect on the patient, even a healthy person being in no way inconvenienced by an injection. The objection which has appeared in some of the journals, that its use is attended with danger, is therefore untenable and due to ignorance of the writers as to facts

The greatest expense in connection with its preparation is the horse, and this need not enter into considereration. The animal need not be killed. It may be rendered immune, the jugular vein opened, a few quarts of blood removed, the vein close again and the animal returned to the dray.

Another objection, the difficulty and long time required in obtaining the serum, will also be found untenable. It is true, the production of the first serum requires three or four months, but the production can be kept up constantly. The same could be said of the vaccine virus, which lasts only three or four weeks, unless well cared for and preserved, although it takes but a few days in its preparation. Here too, the production must be attended to continually in order to keep a supply of a fresh and reliable product.

France has appropriated 100,000 francs for the purpose of producing the serum, an additional proof of the value of the serum, and, the speaker thought, we should exert our influence with the local Board of Health for the establishment of funds for the same purpose.

Dr. Shaw was inclined to doubt that the mortality from true diphtheria is as low as 40 per cent, when the ordinary treatment is instituted. From 70 to 90 per have treated many cases of diphtheria.

Dr. Prewitt did not consider that a fair question. We can not expect physicians to say they have lost 50 or 60 per cent of their diphtheria cases, as such statements appear as individual records against them. Then, they would be very unreliable, as a great many practitioners exaggerate their successes. Probably the most accurate statistics are those from hospitals, where no one is personally responsible. He had treated a great many cases, and, while he does not know what per cent died, he knows that it is a very fatal disease.

As to the new serum therapy, he hoped that it would prove to be all that is claimed for it. Although not just like it, it is very similar to the Pasteur vaccination for rabies, and there can certainly be no doubt as to the value of this treatment. Pasteur vaccinated 1600 persons bitten by rabid dogs, and the per cent of deaths was very small. It would be preposterous to believe that 1600 persons could be so injured with a resulting death rate of ten per cent, unless there were some counter active agent present.

Dr. Campell briefly reviewed the points brought out in the discussion. The immunity of animals is obtained by using attenuated culture of the germ. Its virulency is diminished in broth cultures, and also by heating the cultures in a current of air. For instance, where a pure culture injected into an animal produced death, that same culture after being heated to 30.5° C., could be employed to immunize the animal. It is supposed that in multiplying, the germ produces a toxine and an immunizing substance. The germ and toxine are destroyed when subjected to a temperature of 60° C., while the immunity producing substance remains unaffected until 70° C. is reached.

So far as the experiments referred to by Dr. Pollak are concerned, it is well known that where an animal is immune to a disease, it is probably due to some substance in its blood which is antidotal to the poison of the germs of the disease. There is probably some such substance in the blood of healthy persons, particularly healthy grown persons, although the speaker was inclined to doubt that the amount of antitoxine is sufficient to afford the immunity claimed for it. We should, at least be slow to accept it until the fact has been established by other scientists.

The success of the treatment must be looked upon as absolutely assured. There has been no groping in the dark, but it has been worked out very logically from the start. It has been based upon strictly scientific principles, on the action of bacteria and their products on the system, and the result is none other than would be expected from known and proved facts.

This treatment differs from the tuberculin treatment as devised by Koch. That did not seem quite rational from the very beginning, as the disease was augmented by the injection of the toxine, thus tending to make it self limited. With the antitoxine the object to be at-

whatever on a healthy person. Then, too, the general favor with which the treatment has been received by all European scientists, in spite of the jealousy naturally existing among them, would tend to emphasize the success of the treatment. This jealousy manifested itself when Koch announced his treatment for tuberculosis, and is the cause for the non acceptance, by a part of the scientific schools, of Pasteur's treatment for rabies; and this, too, in spite of the brilliant results achieved by this experimenter and the undoubted value of his treatment.

Although the statistics already show improvement in the mortality of diphtheria (24 per cent), as compared with the other methods of treatment (40 per cent), speaker thought that it would be very materially reduced in the future. When used as a preventive the result is 100 per cent of successes, a like per cent then used on the first day of the disease, and 98 per cent on the second day. After that the per cent of recoveries falls very fast. Then, too, the antitoxine is at present difficult to obtain, and is probably used only in severe cases where the patient is in a desperate condition.

DR. LOEB asked Dr. Campbell if he did not consider the great mortality after the second and third days due to a new feature, that of septicemia. Also, if anything had been done toward antagonizing the streptococci and staphylococci.

DR. CAMPBELL said that there is probably a mixed infection after the second day, that the patient is then suffering more from other bacilli than from the Klebs-Loeffler. While the antitoxine may neutralize the one poison it does not effect the other. He did not know that anything had been done in this direction, but considered it a fruitful field of research.

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DR. CAMPBELL briefly alluded to the "Serum Therapy" of tuberculosis, suggested by Dr. Vigerau, of Switzerland, which is based upon the same principles as the antitoxine treatment of diphtheria. The experiments were made on the donkey, as the equine species is naturally very refractory to the development of tuberculosis. The cultures are injected into the veins and a diffuse pulmonary tuberculosis follows. This finally entirely heals, and a few weeks later the blood is said to be strongly antagenostic to the toxine of the tubercle bacillus. Although the experiments are in their incipiency, a great deal is claimed for this method of treatment.

DR. PAQUIN said that it is almost inpossible to inoculate a horse with tuberculosis, only a small lesion resulting from inoculations of the eye. It seems that the blood of the horse is already provided with an antitoxine.

NOW is the time to subscribe for the MEDICAL REVIEW

Regular Meeting, Thursday Evening, November 22, 1894.

THE PRESIDENT read his annual address.
Election of officers for ensuing year.

Report of a Case of Pseudo-Hermaphrodis with Remarks.

BY F C. AMEISS, M.D.

Clinical Professor of Gynecology at the Missouri Medical Colle St. Louis, Mo.

Through the kindness of my esteemed teacher a friend, Dr. J. K. Bauduy, am I placed in the position relate the following case which he referred to me f examination with the statement that the anomaly, whi the case presented, possessed particular importar viewed from a gynecological standpoint.

G. S., twenty-four years old, born at Vienna, Austr has been in this country about ten years. By occu tion he is a skilled cabinet maker, having learned t trade at his home, and has had no trouble in obtaini work in this country, but considers it easier to attain livelihood by exhibiting himself as a curiosity.

His family history is a good one; his parents, brothe and sisters and their offsprings are healthy, without a malformation of the sexual organs or other portions the body. Personally he always enjoyed perfect healt His general appearance is that of a stout, strong ma weighing about 150 pounds and being about 5½ feet height. Of blond complexion, well developed masculi features but beardless, nevertheless shaves regularly stimulate a hairy growth, but thus far has been entire unsuccessful in his purpose. He is of a nervous, ex table disposition, his face flushing readily while answe ing questions as to his sexual organism.

The mammary development is that of a female, good sized, well developed breast on each side, with projecting nipple surrounded by a distinct areol Every four to six weeks and on sexual indulgence, t mammæ become full and hard and sensitive to pressu with the nipples erect and turgescent. No flow of mi was ever noted.

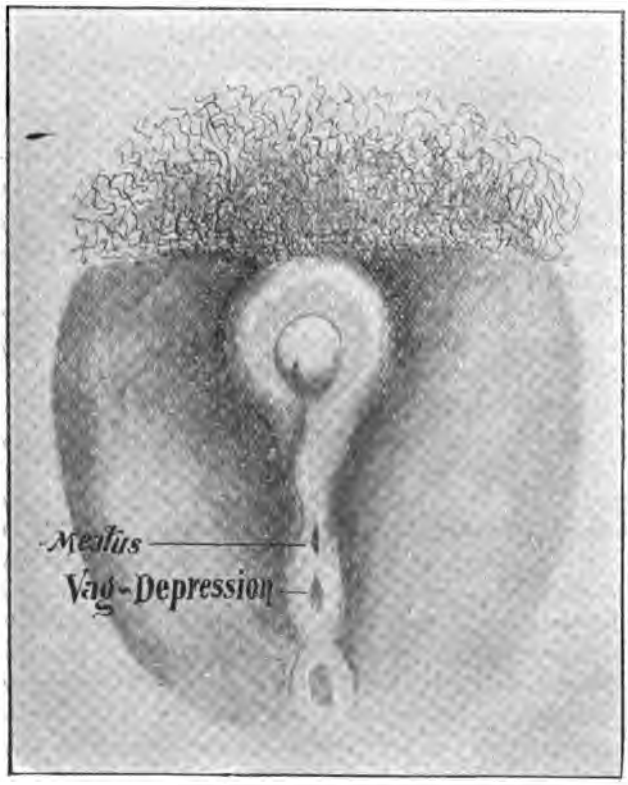
At the time when the mammæ increase in size a resistance, every four to six weeks, as just stated, the occurs nose bleeding, lasting a short time and recurri several times a day for two or three days, accompani by an ill-defined tired feeling such as woman complai of at her menstrual period.

The mons veneris is a typical mons of womanhoo with the hairy growth confined below the groove in t lower limit of the hypogastric region, whilst in t male the hairy distribution generally follows the lin alba as high as the umbilicus.

The penis or clitoris, situated at its usual site, is thre

excitement, coition or masturbation, erection of this structure occurs, enlarging and becoming elongated to about two and one-half inches.

Aside of the penis or clitoris, on each side, you can see an elongated, egg-shaped swelling which at once reminds you of the testicle, and on examination proves to be undoubtedly a well formed testis. Both testicles are closely covered by the scrotum which is not at all pendulous but drawn up aside of the penis, and therefore is divided in two lateral halves, each half covering a testicle. The scrotum very much resembles the labia majora in appearance, but hacing devided the sex from the contents one cannot but consider the structure correctly.



About one and one-half inches posterior to the penis is situated the meatus urinarins; and extending from it to the penis are two thin folds of mucous membrane, about one-fourth of an inch apart, running parallel with each other, which very likely are the remnants of an undeveloped urethra. These folds, attached to the incomplete edges of the perineal raphe, may be mistaken for, in fact, they resemble more or less the nymphæ.

In the perineal structure, just behind the meatus, between it and the anus, where one would look for the vagina, is a small, shallow depression. Our patient has examined this region frequently and by repeated attempts of pushing and poking his finger at this spot, tus vaginæ.

Digital examination per rectum discloses no uterus nor ovaries, and it hardly is probable that even rudimentary female organs are present. These, as is well known, cannot always be positively diagnosed in such cases. An anesthetic was suggested for a more thorough examination but was not submitted to.

This man claims to have two distinct voices, the one at the menstrual molimen being considerably higher in pitch.

His sexual inclinations are normal; he has no desire to cohabit with men, but finds annoyance and displeasure at not being able to fulfill the sexual act completely. Not getting satisfaction from normal intercourse with women, he relieves himself by masturbating occasionally. During emission the fluid is generally discharged at the meatus, but at times none appears, when probably it finds its way into the bladder.

Some of this man's statements, as the remarks on vicarious menstruation from the nose, the change in his voice, and others, are to be considered cum grano salis. He has been examined and questioned so much that he certainly understands and appreciates the importance of his case, and may have added, when relating his case, some of the very interesting points mentioned, which it would be exceedingly difficult to disprove.

This case must be considered one of pseudo-hermaphrodism with perineo-scrotal hypospadia, belonging to the androgynous subdivision, that type in which the deformity of the sexual organs of man attains such a degree as to simulate the female genitalia.

The other subdivision of false hermaphrodism is gynandry, where the external genital organs of the female resemble those of the male; by far a less frequent condition than the first variety, and generally confined to an elongation and hypertrophy of the clitoris which ought easily be recognized as such.

The generally accepted classification of hermaphrodism is that by Klebs who devides this malformation into true and false hermaphrodism. The latter variety has already been referred to.

True hermaphrodism Klebs divides into:

1. Bilateral hermaphrodism, where both testicles and ovaries are found in the same person.
2. Unilateral, where a testicle and an ovary is found on but one side, and an ovary or testicle on the other.
3. Lateral, where a testicle is found on one side and an ovary on the other.

Of each of these varieties apparently well authenticated cases have been reported, but the very cases which formerly were thought to be typical examples of true hermaphrodism are now considered erroneously classified. As, the well known case of Meyer which was cited as a true hermaphrodism lateralis; and that described by Bannon as a case of unilateral hermaphrodism; and Heppner's case, who considered it a bilateral

al of Obstetrics, 1875, volume viij).—The well-known Katherina Hohmann who was examined by Friedreich, Schulze, Rokitanski and many others—which was almost positively considered a lateral hermaphrodite, is now classified amongst the cases of pseudo-hermaphrodism with perineo-scrotal hypospadias (Pozzi).

Permit me, gentlemen, to refer briefly to these frequently quoted cases. Meyer's case consists of a specimen of lateral hermaphrodism preserved at the pathological museum at Zurich, which was obtained from a new born child. Klebs made microscopical examination of the specimen, related the case in detail and gave as his conclusion that the right sexual gland was an ovary. Garrigues in reviewing the case states that the description of the gland both as to its structure and histological composition reminds one much more of a testicle than of an ovary. (Garrigues in "Mann's American System Gynecology," Vol. i).

The supposed ovary of Bannon's case, that of unilateral hermaphrodism, was also examined microscopically, but the words "the granules visible are not Graafian follicles, but appeared to be fat-globules" are certainly not a demonstration of ovarian structure.

Heffner's case, the bilateral hermaphrodite, was very likely one of those types spoken of by Tait, where appendices either to testicle or ovary are met with giving the appearance as if the individual had three or four testicles or ovaries. If such a condition were found in a hypospadiac male, one might think he were dealing with a true bilateral hermaphrodite.

The external appearance of the genitals of all three cases approximated mostly the female sex.

Munde's case, Katherina Hohmann, quoted in many recent text-books, is well known. This individual after posing as a woman the greater part of her life and performing female sexual duties, called on Munde when fifty one years of age, dressed as a man and stated that he was fulfilling the sexual functions of a married man, of which Munde convinced himself by being present during the act of sexual intercourse and noted the discharge emitted from the penis which distinctly looked and smelled like semen (*Amer. Jour. Obst.*, 1875). It is to be regretted that no post-mortem of this case is on record; for it would be a positive proof of true hermaphrodism, if male and female sexual glands could be demonstrated.

Many authorities claim that no case of true hermaphrodism is on record. Katherina Hohmann is the only instance admitted as such—and that with a proviso—by such men as Virchow, Rokitanski, Schulze and others. In recent years many cases of this malformation have been related in the medical journals the world over—I have examined and studied the literature of over fifty of these reports—but none are convincing of the "real true bisexuality in man," as Rokitanski ex-

Garrigues, Tait and others, in speaking of an a
lute proof of this deformity, demand a post-mor
with microscopical examination of the doubtful ger
gland; without this no positive conclusion can
reached.

Of great importance, particularly in children, is
decision of the sex in these cases, as on it will dep
whether the child is to be brought up as a boy or a
When doubtful, Tait advises to consider the chil
boy and educate and dress him accordingly. But if
individual were a boy and brought up as a girl amo
girls, no end of mischief might accrue, as was am
proven in the case of Madelaine Mugnoz, the nun
Ubeda, who suffered death for rape. By follow
Tait's advice one would but seldom go amiss, as by
the greater number of these cases are of the male se

Intended marriage at times brings a malformed
son to a physician and a diagnosis of the sex is
quested, which is often impossible to determine e
after the most thorough examination, as has been sh
by many a reported case.

Operative interference is only advisable in comp
tively few cases. An enlarged hypertrophied clit
may need amputation; and a hypospadiac urethra v
constant drippling of urine from its abnormal ori
demands the surgeon's skill for its repair.

The case of this paper did not complain of incon
ence of urine and was told that nothing need be d
for him in a surgical way.

Discussion.

Dr. Frank Glasgow.—Was there anything to sh
that the discharge which took place from the uret
was semen?

Dr. Ameiss.—I only saw him twice and had no cha
to examine the discharge to determine whether or no
was semen, but from his description I think it was.

Dr. Prewitt.—How deep was the vagina?

Dr. Ameiss.—There is no vagina.

Dr. Glasgow.—What is the shape of the individu
hips?

Dr. Ameiss.—The entire bodily appearance of
person is masculine, except the breasts, the absence
beard, the peculiar hairy growth at the mons, and
genital deformity as described.

Dr. Glasgow.—I will say that I followed Dr. Ame
description closely and very attentively, and every th
he said seemed to convince me that this individual
more of a woman than a man. The two bodies wh
were on either side of the meatus might be ovaries
stead of testicles. The ovaries do come down into
inguinal region and even down to the labia majora
simulate testicles very closely. I know of no way
which we could tell that they were not ovaries inst
of testicles. There are cases reported where the clit
is elongated to quite a length—three inches—on sex
excitement, and the party has been able to have in

clitoris, I rather think it is; and the discharge that takes place may come from the vulvo-vaginal glands which empty close to the meatus. It seems to me that this is more probable The appearance of the breasts certainly makes it more probable that this is an imcomplete female organism rather than a male. I would like to ask Dr. Ameiss, if there was any trace of a vagina to be felt per rectum?

Dr. Ameiss.—No sir; nor any trace of a uterus or ovaries.

Dr. Glasgow.—Was there any trace of a prostate?

Dr. Ameiss.—An indistinct enlargement was felt at the site of the prostate, but I would not assert that it was the prostate gland, although I think so.

Dr. Glasgow.—That might be the uterus, so it seems to me that everything points to this being an undeveloped female rather than a male. There is a certain amount of development there, otherwise the party would not have any sexual excitement whatever; these bodies must be pretty well developed. I doubt whether when there is no development there is any sexual feeling. The fact of his not getting satisfaction from intercourse with females would suggest that it was a female.

Dr. Ameiss.—He said he could not get satisfaction because of the shortness of the organ. He had no inclination to have connection with men, but only with women.

Dr. Glasgow.—I saw a man who had only an inch and a half of his penis left after what he called Chinese pox and he said it gave him considerable satisfaction. So this individual should be able to get some satisfaction from a penis two and a half inches long.

Well, taking everything together it seems to me it is more like a female than a male.

Dr. McPheeters.—Was the discharge examined under the microscope?

Dr. Ameiss.—I could not get any of the discharge; he would not masturbate for this purpose. He was merely passing through the city and I saw him only twice.

Dr. Glasgow.—I had a case where the ovary had descended into the inguinal canal and it swelled at the menstrual period, and was so tender and sensitive that I made a plaster cast and had a truss put on at the menstrual period when there was a good deal of tenderness.

Dr. Derivaux.—In connection with Dr. Ameiss' paper I will say that I have seen a post mortem in a case that tallied perfectly with the description given by him. When this patient was young she was examined by all the authorities in Paris, that was in 1834 or thereabouts, and as near as I can now remember she was then uniformly considered a woman, although she had a beard; but she had perfectly developed mammæ and the description of her genital organs corresponded exactly to what Dr. Ameiss referred to. I assisted at her autopsy and it was found to be a woman although a woman, there were ovaries and uterus but in an atrophic state. What was her uterus had been taken for the prostate gland.

Dr. Glasgow.—Were the ovaries in the inguinal canal?

Dr. Derivaux.—No sir; they were appended to the atrophied uterus. I do not recollect now whether there was anything suggesting testicles or not. Of course it would be important to know what was in the labiæ majora, but the description of the external genitals was just like that given by Dr. Ameiss. A scrotum divided in the middle. This young woman acted as a husband for several years.

ABSTRACTS

SURGERY.

Treatment of Vesico-Vaginal Fistula by Operation from Within the Bladder.—In an instructive paper in the *Annals of Surgery* Bond advocates the treatment of vesico-vaginal fistula by operation from within the bladder.

The cases most suitable for treatment by the new route are those in which extensive cicatricial contraction has occurred; in such cases the vaginal roof is often tightly stretched across the pelvis, and the neck of the uterus cannot be drawn down; if, under these conditions, the fistula be extensive and situated high up near the uterus, considerable advantage is obtained by choosing the new method.

As regards the operation itself. The bladder may first be injected, the finger of an assistant meanwhile blocking the fistulous opening; if this be impossible, it may be opened by a vertical incision above the pubes on a sound, the peritoneum being carefully drawn out of the way.

McGill adopted in his cases a transverse incision through the skin and recti muscles, and also into the bladder; but the writer found that the vertical incision gives plenty of room, and the recti can be partially divided transversely, if necessary, and then drawn outward. The walls of the bladder are now held apart and the cavity opened out by three long,curved metal retractors, and by these means and upward pressure on the bladder by the assistant's finger in the vagina the fistula and field of operation can be brought well within reach; the thin cicatricial junction of the two mucous membranes is now incised all around, and two flaps of vesical mucous membrane are raised, one on either side of the rent, with their edges turned inward towards the bladder, and are sutured with catgut on a double-curved needle, such as is used for cleft-palate suture; at this stage the

of the mucous membrane beyond the actual limits of the fistula.

A few silver-wire sutures are afterwards used to draw the edges of the vaginal mucous membrane together, these having been already freshened on their vesical surface by the operation within the bladder.

It is very important in the after-treatment to avoid the occurrence of cystitis, for which purpose continuous irrigation of the bladder, day and night, with warm boracic solution is very useful. It is carried out as follows:

After the closure of the fistula, a piece of india-rubber tubing, or a large Jacques catheter, is passed through the suprapubic wound, and to the upper end of this is attached the nozzle of the irrigator tube. The tube within the bladder has a few lateral holes cut in that part of its course which lies within the cavity of the viscus, and these allow of a free current of lotion both inward and outward. The cavity can be distended and flushed at will by compressing the tube beyond the urethra; the rate of flow can be easily regulated by pressure clamps and the irrigator kept constantly warm by a cotton-wool jacket. This irrigation can be continued as long as necessary. The tube can be gradually dispensed with, by first drawing it within the bladder and allowing the suprapubic opening to close, and then removing it entirely.

The portion of tubing projecting from the urethra should be sufficiently long to reach a receptacle, in order to avoid wetting the bed.

In addition, Bond found this continuous irrigation very useful in other cases of suprapubic cystotomy, in which the bladder has been drained by a tube passed through the membranous urethra, the continuous current of the acid lotion preventing the deposition of phosphates in and around the wound.

The suprapubic method offers a surer means of closing the fistulous opening in bad cases:

First, because the vesical flaps when raised and turned inward have their surfaces opposed to the direction of the current of urine flowing through the fistula, and are thus more tightly closed by its pressure, unlike the flaps formed by vaginal mucous membrane; the vesical flap is the valuable agent in closing the opening, and it is in proportion to the care taken to thoroughly free and separate these that success depends, even in operating through the vagina. Moreover, in most cases of extensive loss of substance, the vesical mucous membrane has grown over the edge of the fistula, projecting into the vagina, and is more voluminous than the vaginal membrane.

Secondly, the suprapubic opening, especially where combined with the urethral drain and constant irrigation, insures complete drainage,—that is, the absence of all tension within the bladder. This is a most important factor, and is in itself sufficient in some cases to bring about cure without further operation.

only, which is almost sure to induce cystitis.—*Therapeutic Gazette.*

VETERINARY

Method by Which Immunity is Acquired Against Infectious Diseases.

Translated by F. Horday, M.R.C.V.S., in the *Veterinary Record.*

Vaccine and the Application of Serum to the Cure of Disease.

On the Antitoxic Serums, by E. Roux, of the Pasteur Institute; on Immunity from Infectious Diseases by Metchnikoff, of the Pasteur Institute; Immunity and Methods of Attaining It, by Hans Buchner, of Munich (Communication read before the Congress of Hygiene at Buda Pesth); Contributions to the Study of Tetanus Treatment and Prevention by Antitoxic Serum, by Roux and Vaillard (Records of the Pasteur Institute February, 1893); Contributions to the Study of the Venom of Serpents, Method of Rendering Animals Immune (Records of the Pasteur Institute, May, 1894).

It is possible to vaccinate men and animals against infectious diseases by different methods, which all produce the same result but by different ways—the effect being to render the subject resistant to the infectious virus.

M. Pasteur has rendered animals immune against anthrax by inoculating them with an attenuated and harmless virus. He has rendered man immune against rabies by inoculating him with progressive doses of the rabid virus.

These two methods are very analagous, and I think that theoretically they are absolutely identical. They cause the subject to become accustomed to the violent virus by the previous absorption of a weak virus. This manner of becoming accustomed to the infectious virus is like acquiring a tolerance of chemical poisons. It is probable that the intimate mechanism of this tolerance is the same for all the microbic poisons. For anthrax M. Pasteur inoculates under the skin of the larger animals a preliminary culture of anthrax virus, extremely attenuated by the action of heat and air, this culture being incapable of killing even a guinea pig. Then he inoculates a culture a little less attenuated, termed the second vaccine, which is capable of killing guinea-pigs but which is harmless to sheep and cattle.

After this second inoculation the animal becomes immune against the introduction of the most violent virus of anthrax.

As to rabies, M. Pasteur renders man immune against this fearful disorder by injecting under the skin preparations of the spinal cords of rabbits to whom he has previously given the disease by inoculation of the rabid virus under the dura mater. These spinal cords are

lence. He injects at first the oldest cords, then progressively the fresher ones, and the treatment becomes a success when the inoculation, by the absorption of progressively stronger doses of the virus, has taken effect before rabies has had time to be developed in the patient. This treatment of rabies is not, properly speaking, a curative, but a preventive one.

It does not destroy the poisonous elements of the rabid virus in the man, but causes him to become accustomed to the effects of the poisod before it is spread over his whole system.

This manner of acquiring tolerance has with some variations, been applied to animals against a large number of diseases, particularly against diphtheria, tetanus, and snake bite.

It is possible to render animals immune against diphtheria and tetanus according to the method of MM. Roux and Vaillard by inoculating them with diphtheritic or tetanus cultures separated from their microbes by filtration, and mixed with decreasing doses of iodine solution which weakens the virulence of the poison secreted by the microbes.

M. Kaufman (Professor of Therapeutics at the Veterinary School, Alfort), MM. Phisalix, Bertrand and Calmette have rendered animals immune against the venom of the viper by injecting gradually increasing doses of fresh venom at intervals, or heated to 80°. The study of the blood of animals protected against these three infections has demonstrated that the serum, that is to say the liquid part of the blood, is at the same time a vaccine and a mechanical remedy against them.

Does this serum, protective and curative, act like the Pasteur vaccines, by accustoming the system to resist violent and venomous poisons? or is it a true destroyer of these poisons? Does the serum act as an antidote, or does it act indirectly in the same way as an attenuated virus? I think that immunity, acquired by vaccination or by the use of serum, is always caused by a tolerance of the system to virulent poisons.

I think that the serum capable of curing tetanus, for example, contains in small quantities a substance like, or very analagous to, the tetanic poison which the inoculated animal has absorbed in increasing quantities. In support of this opinion I rely upon an experiment of MM. Roux and Vaillard. These two experimenters have inoculated into the peritoneum of a fowl a large quantity of tetanic poison. As the fowl is naturally refractory to tetanus it did not become ill. But during the three or four days following the inoculation the blood of the fowl is toxic, it will give tetanus to mice in a similar manner to the way that the anthrax vaccine gives anthrax to guinea-pigs. Then the poison disappears, at least in a great measure, and about the fourteenth day the serum furnished by the fowl manifests an energy which is able to prevent and cure tetanus.

This experiment brings up numerous thoughts.

First, Why is the fowl naturally refractory to tetanus? Why are fowls absolutely refractory to the tuberculosis of mammals? Do these animals possess normally in their blood the antidotes of the poisons of tetanus and avian tuberculosis? or have they become used to these poisons by atavism, or by successive absorption of virus at some periods time back? Does this tolerance allow their system to secrete these antidotes when infection requires it?

These are questions which our actual present knowledge does not permit us to solve.

But what this experiment tells us is that in ten days the virulent blood becomes curative blood. This blood which killed, cures. Life has then acted upon in a similar manner to which heat and air acted upon the anti-anthrax vaccine of Pasteur. Can one consider that these two different methods have changed the poison into an antidote. Is it not rather more reasonable to suppose that the system has manufactured an attenuated poison which has permitted the establishment of a tolerance? It is not an antidote but an enfeebled poison.

This slight chemical modification changes the poison, which would act like a blow from a club, into a substance which is occupied in attended to and defending the system.

[TO BE CONTINUED.]

AS A PAINLESS LAXATIVE and superior nerve tonic "Melachol" is in the front rank of all similar preparations. The corrective properties of sodium phosphate for deficient and perverted secretions is well known and its combination with citric acid and sodium nitrate in aromatic elixir will increase its value in all cases of chronic constipation, chronic malaria as a rule accompanied by catarrhal disturbances of the bile duct. Many a chronic headache will be cured by one dose of "Melachol" where other remedies have been worthless. "Melachol" has a soothing effect upon an irritable nervous system so often complicated with chronic uterine diseases. In melancholia due to chronic dyspepsia it is *the* remedy par excellence.

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MEDICAL REVIEW.

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ORIGINAL ARTICLES

Infantile Paralysis.

BY JOHN RIDLON, A M, M D.

Professor of Orthopedic Surgery in the Northwestern University Medical School; Senior Orthopedic Surgeon to St. Luke's Hospital; Medical Director of the Home for Destitute Crippled Children, Chicago.

Read before the Mississippi Valley Medical Association, at Hot Springs, Ark., Nov. 20, 21, 22 and 23, 1894.

SYNONYMS.—The best term from a clinical standpoint is infantile spinal paralysis, and the most accurate from a pathological standpoint is poliomyelitis anterior acuta.

DEFINITION.—Poliomyelitis anterior acuta is of sudden onset; it may or may not be accompanied by fever, or convulsions, or both; it at once reaches its maximum intensity; it is varible in its distribution, the muscles are soft and relaxed, reflex action is diminished or abolished, but sensation and the functions of the bladder and rectum remain unaffected.

The affected muscles diminish in bulk (atrophy) and undergo structural change (degeneration). Growth in the affected part is retarded, in this the bones share, and ultimately deformities result from irregular growth in the bones and the unopposed contraction of the healthy muscles. When the full growth of the patient has been attained the progress of the deformity ceases, except such as may be due to weight bearing.

HISTORY.—The first accurate clinical description of this disease was published by J. v. Heine in 1840; this was followed by Duchenne in 1855. The pathology was first described by v. Reinecker and v. Recklinghausen in 1863.

PATHOLOGY.—The condition of the cord during the acute stage has not been observed. As early, however, as twenty months after the advent of the paralysis the ganglion-cells of the anterior horn of the affected side are found to be diminished in number and size, those remaining being paler and having fewer and shorter processes than those of the unaffected side. The nerve fibers passing from the affected region are fewer in number and smaller in size. These changes are more frequently found in the cervical and lumbar enlargement than elsewhere. As time goes on these changes become more marked and the atrophy may become evident to the naked eye.

Within a short time after the acute symptoms have passed off the affected muscles begin to atrophy, but there is nothing in this change to distinguish it from the atrophy of disuse. Later on, however, true degeneration takes place to a greater or less extent.

ETIOLOGY.—We do not know what causes the disease. Nearly all cases occur during the second and third years of life, although one case has been recorded at twelve days and one at six years. By far the greater number occur during the second summer of childhood and during the months of July and August, although these cases may appear during any month of the year. Well nourished and puny children are alike subject to these attacks, but it has appeared to me to be more frequently found in the children of mill-operatives and in manufacturing communities. If this observation is correct I am still unable to say whether it is due to the heat and defective ventilation of crowded homes, or is inherited from the excess of venerial disease which is often found in those communities where late marriage seems to result from the employment of women in factories and the scant wages of men, or from degenerate nervous system in the parents caused by poor food, bad air, long hours, monotonous machine-labor, and the utter hopelessness of their lives.

It would appear that any condition that renders the nervous system of the infant vulnerable, whether inherited weakness or sickness, may be sufficient to invite an attack when the extreme summer heat, teething or intestinal irritations are added.

SYMPTOMS.—A child may go to bed well and awake well, but paralyzed; or any or all of the following symptoms may be present; feverishness, irritability, loss of appetite, bowels constipated or loose, pain in the back or limbs; or there may be sudden onset of fever, with vomiting, or convulsions, or both, or semi-coma. The back is often tender to the touch, as are the limbs that later on are found to be paralyzed. These conditions may continue only a few hours, or the child may be ill for several days. As the acute symptoms pass off the paralysis is noticed; it may affect any muscle, or any groups of muscles, or any number of muscular groups

—are the most frequently affected; both legs are not infrequently affected, or the paralysis may include all the muscles of both lower extremities or one arm and leg, or some of the trunk muscles may be involved.

Paralysis affecting a whole lower extremity usually does not include the psoas and illiacus muscles which are still able to swing the leg forward. During the three or five months succeeding the acute attack some recovery from the paralysis usually takes place; some times one leg fully recovers, at other times one or more muscles remain defective.

The faradic reaction is lost.

Galvanic: Normal nerve closing:

$$K.C.C. > A.C.C.$$

Opening:

$$A.O.C. > K.O.C.$$

More than normal irritable early; less, late.

Paralyzed reversed closing:

$$K.C.C. < A.C.C., \text{ or}$$
$$K.C.C. = A.C.C.$$

Opening (if present at all):

$$A.O.C. < K.O.C.$$

The joints of the affected region become lax in proportion as they are dragged upon by the dependent limb, and the shoulder may even suffer subluxation.

The skin becomes flabby and loses its elasticity; it assumes a bluish mottled color and is cold to the touch. The reduction in temperature may be even as much as 5° to 12° F. Ulcers sometimes form, but are usually superficial.

Differential Diagnosis.

From Cerebral Lesions.—In cerebral lesions there is often history of apoplexy, the face muscles are involved, and there is often diminution of sensibility; the tendon reflexes are exaggerated, and the contractures spastic; there is no atrophy, no diminution of surface temperature, and no change in electrical reactions.

From Transverse Myelitis.—In transverse myelitis there is paralysis of sensation as well as motion, paralysis of sphincters and bedsores.

From Pott's Paralysis.—In Pott's paralysis there are exaggerated reflexes and other symptoms of spondylitis.

From Pseudo-Hypertrophic Paralysis.—In pseudo-hypertrophic paralysis there is apparent hypertrophy instead of atrophy.

From Spastic Paralysis.—In spastic paralysis there are increased reflexes, spastic contractures, and absence of atrophy and of degeneration reaction.

From Diphtheretic Paralysis.—In diphtheritic paralysis there is the history of the disease, the involvement of palate and throat, retained faradic contractility and rapid recovery.

From Congenital Dislocation of the Hip.—In congenital dislocations of the hip there are no symptoms of paralysis.

Prognosis.—The prognosis is favorable as to life, although it is possible that a child may die in convulsions while suffering from the acute attack.

In recent cases it may be prognosticated that recovery of the paralysis will take place to a considerable extent, but that there will remain a certain amount of permanent paralysis, atrophy and deformity.

Treatment.—The treatment of the acute stage is symptomatic, but a saline cathartic is always to be advised. If the diagnosis is made at an early period ice bags to the spine and ergotine subcutaneously have been employed. Belladonna has also been employed. Later on iodide of potash, cod-liver oil, phosphorus, strychnia subcutaneously, galvanism with positive pole over the cord, or local galvanism with both poles over the muscles. Later on faradism of the muscles.

Mechanical treatment, including massage, fleggellation and roasting.

Mechanical Treatment.—The mechanical treatment of infantile paralysis may be directed to one of three ends, namely: To the prevention of deformity; to the correction of existing deformities resulting from the neglect of proper treatment; and to remedial ends.

Both physicians and surgeons are too prone to take a hopeless view of these cases; to neglect them during the interval which is between the onset of the disease and the development of the deformity; to refer them to a surgical instrument maker for the application of conventional braces, without thought that these might be made a means of cure; or to subject them to the never ending blandishments of the sleek electrician.

Cases of infantile paralysis are in a certain way hopeless cases, in that they rarely fully recover; but they are on that account the more deserving of an earnest and intelligent effort, and the gain as a rule fully repays the effort made.

The mechanical treatment of infantile paralysis should commence during the first stage, the acute attack, and should consist of any simple and convenient dressing which will put that part at rest and continously retain it in the normal position until all sensitiveness of skin and muscles has passed away. Such treatment will often be rewarded by an early and complete restoration of function.

When the affected member is not retained in the normal position during the acute stage it assumes a position of more or less deformity, the affected muscles being stretched by their unopposed and healthy antagonists. For sometime this deformity can be readily overcome, but sooner or later this ceases to be possible,

The problem at that stage, is to rectify the deformity before attempting further treatment. This may be done by stretching or by a cutting operation. Theoretically a more perfect result should be had by stretching the structurally shortened muscles to their original length than by elongating their tendons by a cutting operation; but practically I have found the results equally good; and practically it is possible for only a few to successfully correct these deformities by stretching, whereas any one may succeed with the knife. My personal preference is for the complete rectification of the deformity by operative procedure before attempting mechanical treatment, and I believe it to be of great importance that the correction of the deformity be so complete that there is no tendency in the member itself to return to the old position. Then it will be found possible by simple means to retain the corrected position and relapse can only arise from gross neglect. When the deformity has been fully corrected and it is possible to readily maintain this new position, the limb is relatively in a like condition to that present before the development of the deformity, and treatment aimed to the cure of paralysis may be undertaken.

This treatment should consist in restoring the over stretched muscles to their normal length; in stimulating them to renewed contractility if any such remains in them; and, in case their usefulness is permanently lost, in inducing sufficient structural shortening in them to maintain the limb indefinitely in a useful position.

All that is necessary for the taking up of the slack in over stretched muscles is to place the limb in such a position as will most completely relax the muscles in question, and to uninterruptedly retain it in that position for a sufficiently prolonged period, that is to say from six to eighteen months. Many muscles that at first appear to be wholly paralyzed regain much of their former contractility when given the advantage of diminished length.

The second stage of treatment, that of stimulating nuscular contractility, demands the continuance of retentive appliances, but allows a certain range of use. For instance in the usual paralytic condition below the nee with dropping of the foot, during the first stage of reatment I am accustomed to use Judson's brace without motion at the ankle joint, but during the second tage to place a stop-joint between the foot plate and ie leg-piece to prevent dropping of the foot but at the ame time permit flexion of the dorsum of the foot ward the shin at the end of each step in walking.

Stimulation of the part may be had by a variety of eans. Baking of the limb in a special oven, either ith or without rarification of the air in the oven, is of reat advantage, but rarely can be carried on outside of institution, and about all the over-heating that the verage case gets is to be had from an extra woolen ocking. Stimulation and exercise by electricity I believe to be useless unless applied by the surgeon himpractically useless, and in the hands of the quack an effective means of extortion. Almost the same good can be had by a simpler and an inexpensive method. Massage is a valuable remedy, but like electricity it is expensive and readily serves the purpose of quackery Sometimes parents can be trained into using it with gain, but more often it is by them neglected or done in a slipshod manner. A simple device for which I am indebted to our late colleague, Mr. H. O. Thomas, which serves almost if not quite as useful an end as electricity, and at the same time takes the place of massage to an equal degree, is the daily flaggellation of the part with a short whip consisting of an iron handle ten or twelve inches long to which is attached a doubled leather lash from an inch to an inch and a half in width The rapid application of this instrument for a few minutes over the paralyzed muscles with the limb held in such a position as most completely relaxes the muscles will serve equally well for electricity or massage, and may be administered equally well to the rich or the poor.

In those cases where paralysis of a muscle or a group of muscles is complete and recovery hopeless, much can be done by obtaining an exaggerated degree of structural shortening in the paralyzed muscles. The extremity should be placed in the extreme opposite deformity to that which it tends, with the dorsum of the foot flexed into close apposition to the shin in drop foot, and which the hand hyperextended into drop wrist, and in that position it must be held continously for a long period at least for a year or eighteen months. Not once in all that time must it be allowed to drop. In this way sufficient structural shortening, as a rule, takes place to maintain the extremity in a useful position and enable the patient to dispense with braces, a matter of no small moment since otherwise the braces must be worn all through the period of growth of the child and not infrequently all through life.

The main point then which I wish to make in the successful treatment of these cases is the obtaining of structural shortening of the elongated muscles.

Operative Treatment of Flail Joints.—In long standing cases where there is complete paralysis affecting a part with total loss of control of motion at a joint especially the ankle and knee, the question of a brace for life or an operation may be worth considering Recently Mr. Robert Jones, of Liverpool, England, has has been attempting to transform flail limbs into limbs closely approximating a limb supported by a splint, that is to say, giving a little motion at the ankle-joint and none at the knee, and leaving the psoas and illiacus muscles (the only ones as a rule unaffected in these severe cases) free to develop strength without being overweighted by a heavy brace.

Albert, of Vienna, and Stephen Smith, of New York have advocated and done excision of the knee (and ankle joint, also, I think) in these severe cases of paralysis in

poor patients who were unable to bear the expense of a supporting apparatus. But excision of a joint very materially further shortens a limb already short from delayed growth. Jones' operation consists in opening the joint and with a scapel or sharp gauge peeling off a superficial area of cartilage, of the whole articulation in the case of the ankle, and gauging the bone in the case of the knee. The joint is then put completely at rest for some weeks, and then for a long period the limb is supported with suitable apparatus so that no strain falls on the newly fixed joint. In those cases where the bone is gauged bony anchylosis results, in the other cases where only the cartilage is peeled off a strong fibrous anchylosis with motion from 5° to 15° results. The knee is opened in front by the usual U-shaped incision. The ankle is opened from the front when the foot is in equinus, and from the back when it is in calcaneous. The joints are closed without drainage. Jones has operated upon twenty-six cases without mishap, each wound healing without suppuration.

Some Observations on "Sore Throat" Due to Concretions in the Tonsils.

BY LEWIS C. CLINE, M D, INDIANAPOLIS, IND,

Professor of Laryngology and Rhinology in the Medical College of Indiana.

Read before the Mississippi Valley Medical Association, at Hot Springs, November 22, 1894.

Every experienced practitioner of medicine can recall cases of recurring tonsillitis or sore throat that often developed without any apparent cause, but which were doubtless due to chronic inflammation of the follicles, altered and retained secretions.

It is to this class of cases that I wish, briefly, to invite your attention. The symptoms of these cases are not, as a rule, very prominent, and they are not confined to cases where the tonsils are much enlarged, but are often found in patients from whom they have been partially removed or have sloughed away by repeated attacks of inflammation or quinsy.

My remarks will deal more particularly with the cheesy bodies and not the calculi which are probably the outgrowth of the long retained cheesy deposits acting as a nidus for the deposit of the more solid materials, as phosphate and carbonate of lime, iron, soda and potassa, etc. The soft or cheesy deposits vary in size from that of a pin-head to a grain of wheat, and consist of epithelium, pus corpuscles, bacteria and chalk. These troublesome concretions are found more frequently in the small tonsils, or where there is scarcely any tonsil to be seen, for the reason that in the larger tonsils there is more pressure brought to bear on them and they are kept squeezed out.

Concretions are doubtless the result of a catarrhal condition of the mucous lining of the follicles, coupled often with a uric acid diathesis. Some writers believe them to be parasitic in origin. The leptothrix, doubtless, has something to do with the development of these cheese deposits. These bodies excite recurrent attacks of inflammation, and when long retained, the carbonate and phosphate of lime are deposited, from the blood, about the cheesy mass, which finally results in the development of a calculus.

As a rule they occur singly, although there are sometimes several found in one crypt. They give rise to repeated attacks of sore throat with a pricking or sense of irritation in the fauces, with a desire to clear the throat of some offending substance, but nearly always without avail. In some cases there is a persistent hacking cough with a sensation of a hair or fish bone imbedded in the tissue. But the most common of all complaint is the foul taste and odor they get on dislodging one of these bodies from its bed, and which often causes the patients to be misled through ignorance or intention to believe they have tuberculosis.

Concretions predispose to attacks of quinsy and, in my judgment, are the cause of the majority of these cases, and they can be permanently cured by carelessly hunting out and destroying all the crypts and pockets in which these bodies are formed.

The following cases taken from my case-book will illustrate the salient points that I wish to emphasize:

CASE I.—Mrs. L., aged 43, consulted me November, 1890, and gave the following history: For five years she had suffered with repeated attacks of sore throat, hacking cough, foul taste and breath, with occasional spitting of cheesy concretions that had been supposed to be tubercular. Patient stated that she had almost given up hope of getting well. On inspection the pharynx showed slight congestion, especially in the region of the tonsils. On pulling the left anterior pillar forward I discovered a fissure leading into a pocket that would admit a large bean, the walls of which had been converted into a pyogenic membrane. Near the side of this cavity were two small openings, or fissures, containing cheesy concretions. This led me to examine the right tonsil which did not project beyond the pillars, but contained three of these offensive bodies. After the complete obliteration of these pockets and fissures by the galvano cautery the cough disappeared and the patient made a rapid recovery, gained twenty pounds and has remained well ever since.

CASE II.—In the spring of 1892, Miss L, aged 19, was referred to me for what was supposed to be tubercular pharyngo-laryngitis. She gave a history of frequent attacks of sore throat, a cough, foul taste and offensive breath. Would frequently cough and expectorate small, round, cheesy bodies which, her physicians told her, were tubercles and came from the lungs. On the strength of this diagnosis she had taken a very gloomy view of the future and had become emaciated and despondent. A careful examination revealed nothing except a catarrhal inflammation of the pharynx and tonsils. She had suffered with quinsy three times. Re-

moval of the tonsils and destruction of the crypts with the cautery relieved the symptoms and with a tonic she rapidly regained her normal condition.

CASE III.—Mr. G., aged 32, consulted me September, 1893. Robust and in perfect health except a frequent tonsillitis and a foul taste. Inspection revealed the tonsils slightly enlarged, from the follicles of which I removed seven cheesy concretions. The destruction of the lining with draining of these follicles gave complete relief.

CASE IV.—Mrs. N., aged 40, consulted me in March, 1891, stating that she had had quinsy two and three times a year for several years and that she lived in dread of another attack. On examination I found the tonsils not large, but honey combed with pockets containing a number of cheesy concretions. Complete destruction of the tonsils and fissures gave permanent and grateful relief.

I might detail scores of similar cases but I think I have given enough to emphasize the point I wish to make, that is, that perverted secretions of the follicles of the tonsils from catarrhal inflammation resulting in cheesy concretions, which remain as a smoldering fire ready to be fanned into a flame by the least exposure, are the cause of more sore throats and quinsy in adults than any or all other causes combined.

42 East Ohio Street.

Laparotomy for "Pelvic Diseases" No Longer a Necessity.

BY R. STANSBURY SUTTON, A.M., M.D., LL.D.,

Fellow of the American and British Gynecological Societies; Associate Fellow of the Philadelphia Obstetrical Society; Founder of the Pittsburg Obstetrical and Gynecological Society; Member of the Mississippi Valley Medical Society; Ex-President American Academy of Medicine; Gynecologist to Allegheny General Hospital; Surgeon to Terrace Bank Hospital for Women, etc., Allegheny, Pa.

Read before the Mississippi Valley Medical Association, at Hot Springs, November 20-23, 1894.

The assertion found in the text of this paper is founded upon the following argument:

1. We have a substitute for laparotomy in total extirpation of the uterus and appendages by the vagina, either with, or without, morcellment.

2. The operation has already been proven to be effectual and successful. Pean, Segond, Jacobs and others in Europe, Henrotin, Engelman, Sutton, Edebohls and others in the United States.

3. Total extirpation of the uterus and appendages per vaginam gives a lower mortality than does laparotomy, for the removal of the appendages alone. Morcellment of small fibroid tumors gives a lower mortality than does laparotomy for the removal of similar tumors.

4. These operations, by the vagina, shorten the convalescence of the patients, who are out of bed on the seventh day.

5. In all cases of gonorrheal, tubercular, or other infectious type of endometritis, with chronic salpingitis and chronic ovaritis, a cure is not effected, save by total extirpation of the uterus and appendages. The vaginal route is the best.

6. In all cases of fibroid tumors of the uterus, not reaching above, or not quite to the umbilicus, when the uterus must be sacrificed, total extirpation of the uterus, tumor and appendages, by morcellment, can be best effected per vaginam.

7. Small cysts of the ovary or broad ligament, or solid tumors of the ovary can be reached, and by morcellment and puncture be removed through the vault of the vagina, leaving the uterus and opposite ovary and tube intact.

8. In all cases of pyosalpinx, or of multiple pus centers, with co-existing solidification of the pelvic roof, total extirpation by morcellment, per vaginam, is the only feasible operation, and it cures the patient.

9. Total extirpation per vaginam is followed by a cure in the greatest majority of cases as compared with laparotomy.

10. The following sequelæ after laparotomy do not occur after total extirpation per vaginam, viz.:

a. Cancer of the uterus.
b. Adenoma of the uterus.
c. Tuberculosis of the uterus.
d. Gonorrheal affection.
e. Hemorrhages of the uterus.
f. Filthy catarrhal discharges from the uterus.
g. Ventral hernia.
h. Fecal and other fistulæ.
i. The mark of a wound on the abdomen.
j. The nerve storms subsequent to total extirpation are not as great as after laparotomy.
k. The patient is restored to perfect health—this is not the case in fifty per cent of laparotomies for pelvic diseases.

11. The bacteriology of infectious diseases demands removal of the uterus with the appendages.

12. Total extirpation per vaginam is in strict conformity to anatomical relations.

13. The physiological results following total extirpation are free from jarrings, and the patient is functionally a smoothly running mechanism.

14. Laparotomy for these diseases is followed by all manner of physiological disturbances which affect the vascular, muscular, nervous and digestive systems.

15. In the face of this argument laparotomy for pelvic disease is no longer a necessity, but in my opinion, should be abandoned, excepting in very rare instances indeed.

170 Ridge Avenue.

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Dr. Heine Marks and the Reporters.

From time to time symptoms of discontent about the manner in which the Superintendent of the City Hospital dispenses surgical news to the reporters of the daily press have manifested themselves in the ranks of the medical profession of St. Louis and vicinity. A number of months ago an ominous growl of dissatisfaction came from Springfield, Mo. There was talk of having the whole St. Louis Medical Society indicted for unprofessional conduct, because of tolerating Dr. Marks as Vice-President. At least so the papers stated. And what the papers state about Dr. Heine Marks is generally true.

Nothing, however, came of the threat, and the spectacle of one Society indicting another (the report had it, that the Springfield Medical Society was the complainant) did not materialize to the great disgust of the papers, which had anticipated the enjoyment of a juicy morsel in the shape of a tremendous doctors' quarrel.

There seems to have existed, however, a dormant fire of indignation at the doctor's advertising proclivities in the bosoms of his less fortunately situated contemporaries. At all events, after an allusion to said proclivities by a member of the St. Louis Medical Society at a recent meeting, a formal protest against the City Hospital Superintendent's methods has finally been filed with the Committee on Ethics of the Medical Society. In other words, Heine Marks, M.D., has been indicted for unprofessional conduct. This is the inference of the daily papers and also the opinion of Dr. Marks himself, who has repeatedly expressed himself freely on the subject to reporters of all the daily papers of this city.

Dr. Marks believes that there is a clique or coterie behind Dr. Loftus, the complainant. The clique is, again according to Dr. Marks, jealous of him and of the fine advertisements which he gets in public print. He is certain that he will come out victorious of this unjustifiable onslaught on his professional character, and that the schemes and machinations of his adversaries will fail of their object. Dr. Marks has, without knowing the wording of the charges, reported them, successfully as it seems. The reporters have already tried his case according to the rules of law and have with rare unaminity arrived at the consoling and reassuring verdict: Not guilty!

Dr. Marks in his numerous interviews has emphasized the fact time and again, that he is not worried and has no fear o the verdict.

It is an awful spectacle to behold, how such a meritorious man like Dr. Heine Marks is being persecuted by jealous confreres. But such is the bane of greatness. Everybody that judges this matter impartially will coincide with the doctor, when he says, that in his official character he is obliged to give information to the press. It is true, that none of the former Superintendents of the City Hospital were accused of too assiduously advertising themselves, but, may be, these gentlemen were all derelict in their duty towards the press and the public. Perhaps the reporters have found a means to force the present Superintendent to divulge surgical news; a thing which did not work with his predecessors in office.

Warning Voices Against Undue Enthusiasm in Estimating the Value of Healing Serum.

The confidence of Behring and many clinicians that by the use of diphtheria healing serum every case of uncomplicated diphtheria, treated within the first forty-eight hours, will get well, does not appear to be shared by some other observers and some apparently well founded criticisms have been expressed in various quarters. We have already stated that Behring does not claim that his serum will influence cases complicated by a streptococcus infection or a septicemia—these would have to be prevented by other means. To this statement it has been very pertinently objected that practically a great many cases, presenting the clinical picture of diphtheria, are more or less complicated by the infections referred to, that they are all cases of diphtheria whether caused by the specific germ of diphtheria alone or by a combination of the same with other infections. The objections to this argument by Behring we have referred to in an editorial of December 1.

A very logical scrutiny of the limitations of the serum in the treatment of diphtheria, based upon its pathological anatomy, is that of Julius Ritter, of Berlin, whose very appropriate arguments are about the following: The diphtheria bacillus enters the mucous membrane where it has been deprived of its protecting layer of epithelium, causing an inflammatory reaction characterized in trachea and larynx by a fibrinous exudation, while the mucous membrane of the pharynx becomes intensely infiltrated with round cells and after its invasion of a large number of streptococci it dies off. Where only a fibrinous exudation exists, as is usually the case in the larynx and trachea, the diphtheria bacilli are carried to the surface by the current of the exudation, the tissues thereby being virtually freed from the diphtheria bacilli and as soon as the upper stratum of the exudation is thrown off the spontaneous cure of the process is completed. This anatomical form of the diphtheritic inflammation is what is called by Virchow catarrhal diphtheria and these are the cases in which the application of every antiseptic is bound to be successful.

Entirely different are those cases in which the streptococci get the upper hand in the diphtheritic process; here the diphtheria bacilli are situated deeply in the epithelial or sub-epithelial tissue and it is in these cases particularly that the value of the serum therapy must be put to the test.

Should it be impossible to avoid a streptococcus and septic infection by means of strict aseptic surroundings similar to those used in surgical procedures, a trial with a healing serum against a streptococci invasion would be indicated. That such a serum is capable of preventing the streptococcus infection has been demonstrated in the case of animals.

Of interest are also the observations of Ritter that large doses cause in animals an irritation of the kidneys and if rabbits had been subjected to an artificial albuminuria which had already disappeared again it would recur upon the repeated injection of serum. Although these results do not prove much, as Ritter admits, it will be the duty of all physicians to observe for themselves, whether the serum has any deleterious effects, particularly upon the kidneys. Ritter at least, observed also in his practice indications of kidney irritation, which he was inclined to attribute to the action of the serum. It must be added, however, that Ritter used a serum which had been prepared from dogs by himself, but, as he states, strictly according to Behring's method.

Comparing the various reports and statistics that have been furnished up to date, it is certain that even those who have been very cool towards the general enthusiasm manifested by the majority of clinicians that have tried the remedy, admit the probable value of the remedy. They say that after taking into consideration all the many possibilities of error in consequence of the variation in intensity of the different epidemics, it can not be denied that the serum has a decided influence upon the disease. Koerte, of Berlin, for instance, who seems to be very guarded in his statements, reports that among forty two patients on whom tracheotomy had to be performed, he had a mortality of 52.4 per cent with the use of the serum while in several years before the mortality had been 77.5 per cent the mortality had therefore been reduced twenty-five per cent. The relation of the mortality of all the cases, treated with the serum, to those treated by other methods in the same year was, in Koerti's experience, as one-third to one-half.

The warning voices of cool-headed men should not be ignored, lest the high-strung expectations brought about in consequence of the biased minds of optimistic enthusiasts might cause a reaction, or even a collapse, to the detriment of the faith in even those qualities of the new remedy which it truly possesses and to the injury of therapeutic advance. This has been the fate of tuberculin, whose therapeutic value has been enormously overrated and according to the report of some men of international fame, Schede, of Hamburg, for instance, is now underestimated, so that years of patient and honest work, by representative men, will be necessary for the information of the profession of its proper level in materia medica or its therapeutic merits uninfluenced by unreasonable enthusiasm on the one hand and reactionary disgust on the other.

"The Index Medicus."

To our great sorrow we have been informed that the *Index Medicus*, unless efforts are made to continue it, will cease to be published with the February number, owing to lack of support by the medical profession and the fact that a large number of its subscribers are delinquent. Everybody who wishes to keep abreast with the current medical literature or writes on any medical subject, appreciates the great value of the *Index Medicus*. It is a work which is unparalled in any country and its loss would mean a great deal of work for those who wish to contribute to medical literature. They would be compelled to resort to the laborious task of seeking what is desired in the many medical journals, which, with the aid of the *Index Medicus* would take but a short time. We have been informed by Dr. H. A. Hare, of Philadelphia, that it will be possible to continue the *Index Medicus* if five hundred new subscribers are obtained. The subscription price is ten dollars a year, which should be sent to Mr. George S. Davis, publisher of the *Index Medicus*, Box 470, Detroit, Michigan. It is particularly necessary that the *Index Medicus* should be continued owing to the fact that after the completion of the supplementary volume of the Index Catalogue of the Surgeon General's Library there will be no record of contemporary medical literature.

The continuance of this work is therefore a matter of the greatest importance to any physician and as it can never be made a financial success on account of its un-

usual mission, we hope that there will be enough patriotic members of the profession, who, in spite of the hard times, will not allow this useful and creditable book to go under.

"The Railway Surgeon."

We have before us No. 12 of the first volume of the *Railway Surgeon*, a monthly journal, although of recent origin, already well known throughout this country and Europe. The editorship of the journal, which has lately changed hands, could not have been confided to a more trustworthy and competent person than Dr. W. B. Outten. His services as a railway surgeon and organizer of the medical service of the Missouri Pacific System are such that his name will be prominently and indelibly connected with the history and development of railway surgery. We are glad to learn that the unpleasantness which has lately occurred in the National Association of Railway Surgeons, owing to the formation of a new society, thereby interfering, as we have been informed, with the best interests of the old society, has not been able to weaken or undermine the usefulness of the National Association of Railway Surgeons. In view of this disruption in the Association, it could not have elected a better man for the editorial management of the journal, than Dr. Outten, whom we wish to congratulate to the spirit and originality with which he manages the editorial department of the *Railway Surgeon*.

ABSTRACTS

MEDICINE.

Are We Degenerating?—More than one recent writer is endeavoring to prove that the people of Europe are degenerating mentally, morally and physically (*Brit. Med. Jour.*). Such views have been maintained by some of each generation of our forefathers since the time of Homer.

Whether we are losing the delicacy of our literary and artistic tastes is too uncertain an inquiry, and if Europeans are diminishing in mental power they are certainly not diminishing in mental activity. The patience with which our studious youth submits to the often unreasonable exactions of examiners is a proof that at least they are willing and sometimes eager to labor under very heavy loads. But, leaving such difficult inquiries, let us rather take the data which the more exact observations of biological science have given us. Though the evidence is no doubt conflicting, the presumption that we are, on the whole, not degenerating seems to be strong. The working classes receive in the amount and purchasing power of their wages twice as much as they did fifty years ago; their food is better, and their houses healthier. In points of food, sanitation, and means of changing air and scene it may be safely said that every class now lives under better sanitary conditions than it did at the beginning of this century. Preventable diseases have much diminished; some, like scurvy and small pox, have well nigh disappeared; others, like syphilis, are milder in their attacks. The Registrar-General's reports also show a decrease in deaths from phthisis and scrofula.

Studies in anthropology do not confirm the legends of giants in ancient times. It has been inferred from the size of old armour that the men of to-day are bigger than their ancestors. Broca maintained, from accurate observations, that the Parisians of the present time have larger skulls than those of the Middle Ages, but some of the skeletons of primeval man, especially those found in the South of France, have large and well-formed crania. Dentists generally hold that the teeth are now more prone to decay than formerly; but this may be owing to some changes in the nature of the food, not entailing degeneration in other respects.

It is well known that the average duration of human life has much increased, but this may be owing to greater care, better hygiene, and increased skill in medicine, adding to the lives of the more weakly members without increasing the tale of years of the healthy ones. During the controversy actively carried on about fifty years ago, as to the efficacy of bleeding, by some eminent physicians in inflammatory diseases, it was asserted that the type of disease had changed. Men could no longer bear the loss of blood as they could in previous generations. It is, however, to be noted that this assertion was made only by the advocates of phlebotomy, and only after experiments had proved that blood-letting could be discontinued without any increase in the mortality or duration of inflammatory diseases.

A great surgeon, the late Professor Syme, used to say that he totally disbelieved in this change of type, because men could bear surgical operations as well as they did thirty years before. That this also holds good of the present day is not wholly due to the mere improvement. We may safely say that men can bear up under severe shocks and injuries quite as well as they did in the last century. Considering the strain that modern civilized life exerts upon the nervous system, it would not be surprising if nervous diseases had become more common, though it has been found difficult to prove this by statistics. It has often been asserted that insanity is commoner than it used to be, but the studies of Dr. Hack Tuke and Dr. Rayner, which were noticed in these pages some time ago, tend to show that the increase in the number of the insane is due to the accumulation of lunatics in asylums, where they live longer under care than they used to. It appears, however, that the average number of recoveries in asylums is less than it used to be—an unwelcome piece of statistics somewhat diffi

cult to explain. On the other hand, there are dangers to the healthy growth of some classes in our population, which would be foolish to leave out of sight. The diminution of the rural population and of employments which harden the muscles, and the prevalence of intemperance in food and drink threaten to lower the tone of public health. In the large manufacturing towns we already see the results in a stunted and anemic population. These sources of degeneration must be combated by putting in operation healthy influences, and teaching the people to attend to the laws of hygiene.

On the whole, however, the healthy influences at work appear to be stronger than the morbific. So far from a general survey of society giving support to the belief that the rising generation are degenerating, the evidence appears to point to an opposite conclusion. The young people of our time are fonder of athletics than their parents were, and seem always to be creating more and more opportunities for outdoor exercise. Such tastes are spreading from the upper and middle to the working classes, and the achievements recorded in the journals devoted to athletics and outdoor sports show an actual increase in physical power. In running, jumping, skating, bicycling, swimming and rowing there is no record which has not been beaten in the past ten years, as far as Europeans are concerned. In the beginning of this century people made much of Lord Byron swimming the Hellespont, but in our own day Captain Webb swam the Straits of Dover; and not long ago a member of our own profession, Dr. J. Daland, of Philadelphia, swam across the Straits of Messina.

Girls in their teens now take much more healthy active exercise than their mothers or their grandmothers did, engaging in games or sports, such as lawn tennis, golf, rowing and skating, which will have a good effect in the improvement of coming generations. The volunteer movement has had an invigorating effect upon our young men, and the prevalence of the military conscription upon the European Continent, though not without its evils, tends to cultivate physical strength, endurance and manliness of character.

Although causes are in operation which justly cause grave anxiety for the future there are as yet no serious proofs that the population of Europe is degenerating, and there are many gratifying signs of improvement.

The Urine in Typhoid Fever.—Ehrlich, in 1882, described his diazo-reaction. He claimed that in typhoid fever the addition of diazo-benzene—sulphuric acid, in the presence of ammonia—to the urine, formed, with some unknown peculiar pathological substance, a body of a characteristic red color, which was best seen in the foam produced on the top of the mixture.

After twelve years' trial of this test it is possible to form some idea of its efficacy. Several observers have tried it in numerous cases of persons suffering from all sorts of diseases. Ruhmeyer has published a collection of 260 cases, in which the urine was tested 2,750 times, and he concludes that the test is very valuable, although he occasionally found it in cases of chronic nephritis, caries, pyemia, scarlet fever, pleurisy, tubercular meningitis, pneumonia, primary pulmonary actinomycosis, carcinoma, sarcoma and tuberculosis. The most characteristic reaction was, however, obtained in pulmonary tuberculosis and typhoid fever. Eduans comes to the following conclusions, after making a series of 600 examinations of the urine. It was absent in only two out of 130 cases of typhoid fever, its usual duration was thirteen days. Its intensity bore no relation to the temperature nor to the seriousness of the case. He sums up by saying that it may help to the diagnosis of typhoid fever, but that it is not of a very high diagnostic value.

Van Noorden, of Berlin, gives the results obtained by testing the urine of the patients in Gerhardt's clinic. In five years he only found the test absent in one case of typhoid fever, so that it may be regarded as a very constant symptom; but, unfortunately, this reaction may be obtained in many other diseases. Thus he found it in advanced heart disease, cirrhosis of the liver, carcinoma, meningitis, erysipelas, pneumonia, scarlet fever, diphtheria, and all forms of tuberculosis. Thus, while it may confirm the diagnosis in cases in which the diagnosis is easy, it does not help us much in doubtful cases.

Hewetson, working in Prof. Osler's clinic, looked for the reaction in 196 cases, and found it in 186; but he remarks that it is very highly probable that the reaction would have been found in a larger proportion of cases if it had been possible to test them during the whole of the illness. Of 50 cases which were very carefully observed, the reaction was present in 77% during the first week, in 67% during the second, in 47% during the third, and in 17% during the fourth. Its duration varied very much; sometimes it only lasted a few days. It might be met with during a relapse, and it might persist during the whole of an attack. It was found, in very many other cases, chiefly tuberculosis, measles, scarlet fever and pneumonia. Actually 34% of the cases of tubercle showed it, and it was very commonly present in acute miliary tuberculosis.

On the whole, we may conclude that it has very little diagnostic value.

Another point which has also recived much attention lately is the toxic property of the urine of patients suffering from typhoid. It is well known that healthy urine is toxic, and Roque and Weill, investigating the urine of typhoid patients in whom no treatment was adopted, find that the toxicity of the urine is much increased, being double that of health, but that this poisonous property of the urine is independent of the temperature, and remains increased during the whole of the fever, and also during the first part of convalescence. With regard to the cases in which antipyrin was used, they come to the conclusion that the drug appears to act as an atiseptic, the urine loses all its toxicity without there being any evidence of the retention of toxic bodies in the system, but when the drug is stopped the toxic

bodies again appear in the urine, and are excreted in large quantities during convalescence. Patients treated with cold baths excrete enormous quantities of toxines during the cold bath treatment, but proportionately less during convalescence. These results are very interesting, and may, in part, explain the good results that have been derived from the cold bath treatment.

With regard to this question of toxines in the urine, it is interesting to note that the importance of getting rid of toxines from the body is gradually becoming well known. Lauder-Brunton and Mr. Watson Cheyne give an account of a case in which the evacuation of toxines from the intestine in a case of intestinal obstruction quickly led to marked improvement, and Dr. Hale White relates a case in which the evacuation of a quantity of fecal pus from the pleural cavity led instantly to a great improvement in the patient's general condition, and the increased strength of the pulse was very noteworthy.—*The Hosp.; Amer. Med.-Surg. Bulletin.*

Chloral Hydrate; Some of Its Little Known Therapeutic Effects.—Chloral Hydrate, as is known, is almost exclusively employed as a hypnotic and sedative; but it also possesses the power of relaxing spasmodically contracted unstriated muscles, and is a powerful dilator of the peripheral vessels, though these two properties of chloral are as yet but seldom taken advantage of by practitioners. Lately, however, chloral hydrate has been utilized in these capacities by Drs. P. P. von Robitansky and J. Pal. The former employs the drug, associated with iodide of potassium, in the treatment of bronchial asthma, while the latter has met with considerable success in resorting to enemata of from 1 to 1½ grammes (15 to 23 grains) of chloral for combating hemoptysis, a condition in which it is assumed that this remedy exerts a beneficial influence, especially by the revulsion which it produces in dilating the cutaneous vessels.

Another physician who is in the habit of employing chloral hydrate as a vaso-dilating agent, is Dr. L. M. Cherchevsky, who combines this medicament with potassium iodide in the treatment of aortic neurism. He has found that chloral, in doses of 15 to 20 centigrammes (2 to 3 grains), several times a day, is of great assistance to the action of the iodide, in that it keeps up a certain degree of relaxation in the peripheral vessels. Dr. Cherchevsky also frequently resorts to chloral hydrate, in small doses several times daily, to counteract the coldness of the feet and hands, which is so disagreeable a symptom in certain cases of anemia, chloro-anemia, and neuropathy.

In the experience of Dr. de Holstein, of Paris, chloral hydrate appears also to be an excellent remedy in the chronic constipation frequently occurring in certain neuropathic patients, which is extremely rebellious to the usual methods of treatment.

The average dose of chloral hydrate, when employed as a laxative, is 1½ grammes (23 grains), which should be taken when going to bed in the evening. The effect is frequently maintained for several days, and is the same, generally speaking, as that of atropine, though with the difference that it is more rapid and seems to be more certain and more powerful than that of the preparations of belladonna.

Like all other medical substances employed as laxatives, chloral should be prescribed only from time to time, in order not to accustom the patient to it, and thus avoid the ill-effects which may be brought about by a long-continued use of this drug.

It is self-evident, that contra-indications to the use of chloral, foremost among which is the existence of a cardiac affection, must also be taken into account. Apart from this contra-indication, which is of capital importance, two others should also be kept in mind: rosacea, or a tendency to this affection, and hysteria of a grave nature. Chloral, in fact, easily produces congestion of the face, and thus favors the production of rosaceous hyperemia; on the other hand, in hysterical patients it may determine paroxysms of delirium and hallucinations.—*Amer. Med.-Surg Bulletin.*

The Incandescent Electric-Light or Radiant-Heat Bath.—Dr. Kellogg, of Battle Creek, Mich., who read a paper upon this subject before the recent meeting of the American Electro-Therapeutic Association in New York City, claims to have first constructed a bath of this kind, several of which he has had in use for the last three years. The bath is made in the form of a cabinet with fifty or sixty incandescent lamps arranged in rows inside, the spaces between the lamps being covered with glass mirrors. Other forms have been constructed for local application. Siemens showed in 1880 that the electric light promotes growth in plants, encourages development of chlorophyl, and the setting and ripening of fruits. Similar experiments with like results were previously made by Herve-Mangon and Prillieux, and have been more recently repeated (1889-90) with identical results at the Cornell University Agricultural Station. Dr. Kellogg draws from these experiments the following general conclusions:

1. That the electric light is, qualitatively, fairly comparable to sunlight in its power to promote protoplasmic activity.

2. That it acts as a true vital stimulus, converting night into day for the plant, and counteracting the deleterious effects of artificial conditions, such as stove heat.

To determine more exactly its physiological properties upon human beings, and its therapeutic value, Dr. Kellogg has conducted in the laboratory of hygiene, of the Battle Creek Sanitarium, a series of experiments, the results of which he presented in tabular form, and which justify the following conclusions:

1. The incandescent electric light bath increases the production of CO_2, and hence stimulates tissue metabolism. The amount of increase in a bath of thirty minutes' duration was nearly fifty per cent (3.60 to 5.13%).

2. The urea and total chlorides were somewhat

diminished by the bath, owing to the greatly increased activity of the skin.

3. Vigorous perspiration was induced at a temperature below that of the body (85° F.), and in half the time required to induce perspiration in a Turkish bath at 106° F. The action of the electric light is entirely independent of the temperature of the surrounding air.

4. The incandescent electric-light bath possesses many advantages over Turkish, Russian, vapor and hot air baths, chief of which are: (1) The penetrating power of radiant heat, which is far superior to the convective heat of the baths mentioned; (2) The superior stimulating effect upon tissue metabolism; (3) The readiness with which perspiration may be induced when desirable (one to three minutes); (4) The low temperature of the surrounding air, which permits the full effects of the bath; (5) The readiness and accuracy with which the dosage of the application may be regulated; (6) The wide range of application, which admits of the use of the bath for a tonic and sedative as well as alterative and spoliative effects.

5. The incandescent electric light is superior to the arc light for therapeutic purposes, for the reason that it may be more readily and evenly distributed, and is free from the injurious effects which have been shown to result from too close proximity to the arc light.—*Electrical Review.*

Unequal Distribution of Cancer.—At the recent Medical and Surgical Congress held at Lyons, France, Dr. Gueillot, of Rheims, presented some statistics showing the unequal distribution of cancerous disease. In Paris and in Rheims there are only 100 cases to 100,000 persons, while in one district of the Department of Aisne there are 1,400 to every 100,000. Dr. Gueillot adduces these figures as further proof of the contagiousness of cancer, and cites also instances where the inhabitants of a particular district of a town or the occupants of a particular group of houses have been especially visited by the disease. He has known of fifteen so-called "cancer houses," in each of which three or four tenants—an aggregate of fifty persons—have successively fallen victims, and of 103 other houses in each of which there were two successive cases of cancerous disease. Of these latter, fourteen were fellow lodgers, relatives, or master and servant, and of the remaining eighty nine, more than four-fifths were husband and wife. Gueillot believes that, while transmission of the contagion may be direct through personal contact, it is more frequently through wearing apparel or table utensils; in two cases he traced it to the medium of a tobacco pipe used in common by a cancerous subject and his "chum." In sixty four cases the interval separating the appearance of the disease in the two related persons was less than two years. He cites nine cases of physicians who contracted the disease unmistakably from attendance upon cancerous cases. Finally, Dr. Gueillot discredits the supreme influence of heredity in cancer; his analysis of the history of cases shows that only 12 5 per cent can be fairly attributed to this source, while if the number of persons born of cancerous parents be taken into account, the proportion is reduced to between 5 and 6 per cent.—*Jour. Am. Med. Ass'n.*

SURGERY.

Remarks on the Flap Method of Operating.—When Victor Horsley, in the *British Medical Journal* of October 9, 1886, recommended the flap method of trephining he revolutionized, in my opinion, intracranial operations. He prevented hernia cerebri; he gave us a means of safely establishing a safety valve to relieve intracranial pressure; he diminished greatly the risks of intracranial sepsis. Many patients are now alive in consequence of this simple suggestion. In October, 1892, I applied the same principle to general surgery, and have used it systematically ever since. Now, before any operation I ask myself this question: Can I apply the flap method? In opening the abdomen, in opening joints, in dividing or lengthening tendons or muscles, in shortening tendons (structures which depend for their integrity on their free mobility and non-adhesion to the skin), in tumors in which the skin is non-adherent, these were amongst the first cases in which I applied the method Week by week the range of cases is being added to, and the result has been so satisfactory that I desire to bring it under the notice of the profession.

The advantages are that the wound in the deeper parts is at a distance from the skin wound, the skin over the deeper wound is not interfered with, it supports the deeper tissues which have been divided, rapid healing takes place. The risk of infection of the deeper parts from impure skin is reduced to a minimum. The purification of the hands and instruments is comparatively easy; the purification of the deeper layers of skin of the patient is the difficulty in aseptic surgery. Some surgeons go to the length of saying that the skin cannot be thoroughly purified. Hence the great value of this method. The flap is composed of skin and subcutaneous tissue. It should as a rule be crescentic, and not horse-shoe shaped. The incision should be made as far as possible from sources of septic infection. The main blood supply should enter the base of the flap. This, however, is of secondary importance to the first essential that the skin incision should be away from sources of septic infection.

One of the first cases on which I operated by this method was in October, 1892, for the removal of a loose internal semilunar cartilage in the knee-joint. Since that time all similar cases have been operated on in the same way. In the radical cure of hernia it is a decided improvement. After the operation for strangulated hernia a truss can be applied at an earlier date. In femoral hernia a flap is turned inwards towards the mid-

dle line. In inguinal hernia a flap is turned downwards and inwards, exposing the inguinal canal. In umbilical hernia, if the skin over the hernial protrusion is of sufficent thickness, a flap is turned downwards.

In excision of the knee the apex of the anterior flap is made at a lower level than the anterior tubercle of the tibia. In the elbow a flap can be turned upwards. In the operation for fractured patella and fractured olecranon this method will become the rule. In the removal of tuberculous glands and in subcutaneous tuberculous areas Mr. Stiles has applied the flap method. The value of the flap method in tuberculosis is very great, because the risk of infecting the tuberculous area by septic skin organisms is avoided. Every surgeon knows the evil of mixed infection in these cases.

If a muscle, as the sterno-mastoid in wry-neck, or the tendo-Achillis in club-foot, is thus exposed, the muscle or tendon afterwards works smoothly under the skin. No adhesions form between the skin and deeper parts.

Recently I excised an acromion with a tumor attached to it by means of a skin flap turned up from the deltoid. I then stitched the loose end of the clavicle to the deep tissues, replacing the flap. In dislocation of the outer end of the clavicle, the difficulty of keeping the bone in position is so great that the surgeon will turn up a flap, unite with buried suture the clavicle to the acromion, and replace the flap.

In the division of a bone to remedy deformity or lameness, in the excision or division of bones in aggravated cases of club-foot, in exploring the gall-bladder, kidney (by anterior incision), and in gastrostotomy, the method will be found most valuable.

(The method of opening the stomach first, I believe, devised by Professor Albert, of Vienna, was performed as follows: A flap was turned inwards towards the middle line, exposing the left rectus midway between umbilicus and ensiform cartilage. The muscle was split, the parietal peritoneum divided, the peritoneum stitched by a continuous silk suture to the anterior layer of the sheath of the muscle. The stomach was then pulled out through the wound and pushed upwards into the cellular tissue, an opening made in the skin, and the apex of the cul-de-sac drawn through the opening and attached to the skin edges. The stomach was also stitched to the edges of the opening in the rectus. The flap was then brought back into position. In four days the stomach was opened, a tube introduced, and the patient fed).

If in suprapubic cystotomy the surgeon intends to unite the bladder wound after exploring the viscus he should turn down a flap to expose the recti. In time it may come to be the case that in cases of tumors under muscles the flap will consist of muscular tissue along with the skin.

In stitching the deeper parts buried sutures are used, made of fine silk, catgut, or silver wire. In using silver wire, use as recommended by Kocher, several strands of fine wire rather than thick silver wire; it is much more pliable, and quite as strong.

In stitching the skin, horsehair is used. In this connection I may state that I have during the last year been gradually giving up knots to fix the stitches. The thread is simply passed three or four or five times, as in the first part of a common knot. Mr. Johnston, one of my dressers, has worked out the tension which such a method will bear. He finds that if a double horsehair is used, four turns bear a strain of 35 ounces; three turns, 24 ounces; two turns, 12 ounces; one turn, ¾ of an ounce.

It will in all probability be found that the larger the loop—the greater the distance between the points of emergence—the more numerous will be the turns. In other words, all the portion of the circle which is exposed will consist of a series of turns. By this stitch the approximation of the edges is more easily attained. If on tightening, the edges do not fit closely and accurately, it can easily be loosened and again tightened. Lastly, to keep the flap out of the way, it can be stitched back, it can be grasped with forceps which will keep it back, hanging down by their own weight, or leaded. It can be hooked back, fixing the hooks with India-rubber bands to a piece of lead. The simplest way is to stitch it back with a temporary horsehair stitch.

I am of opinion that the flap method is worthy of systematic application to general surgery. If surgeons will give it a trial I think that they will continue its use in suitable cases.

P. S.—After the paper was read I was informed by a distinguished ophthalmologist that the flap method had been used in operations on the eye for many years. It was from Horsley that I got the hint, and to him I give the credit. I am well aware that there is "nothing new under the sun."—John Chiene, M.D., in *British Medical Journal.*

The Operative Treatment of Gastric Cancer.—The author reports four cases of resection of the pylorus according to the method of Billroth-Wolfler, all of which terminated in rapid recovery. Among his fourteen cases in which he resected the stomach there were seven males and seven females, the youngest patient being thirty-two years of age, the oldest sixty-three years. The duration of the cancer from the commencement of severe gastric symptoms to the time of admission to the hospital varied from 3 to 18 months, eleven patients having suffered for less than one year. Only one patient was entirely free from pain, four suffered from a feeling of pressure in the stomach, and the remainder from oppressive burning pains, more severe after eating and radiating to the sacrum and shoulders. Almost all the patients suffered from vomiting, sometimes infrequent and mucous, more often after each meal. Fresh blood was never vomited, but in three cases coffee ground material. Disturbances of the general health were present, consisting in loss of strength and rapid emaciation, with or without cachexia. In all the cases operated upon a hard tumor, sometimes distinctly nodular, varying in size from a pigeon's egg

to a child's head, could be felt in the epigastrium. The tumor was situated either to the left or right of the median line, and could best be mapped out after administration of purgatives for several days and complete evacuation of the stomach with the tube. In all the cases, after relaxation of the abdominal walls the mobility of the tumor could be determined by careful palpation. If in the vertical position it sagged downward, and after the stomach had been emptied with the tube and filled with gas the neoplasm shifted from left to right, as happened in eleven cases, this demonstrated almost positively the absence of adhesions to surrounding organs, without necessity of an exploratory incision. In nine cases there was present marked dilatation of the stomach, in four it was inconsiderable in spite of the pyloric stenosis. Free hydrochloric acid was found absent in nine cases examined for this purpose.

The indications to operative interference in gastric are, according to Kappeller, as follows:

1. In cases of very movable and medium sized tumors he resorts to extirpation of the growth if the suspected absence of adhesions is confirmed by the abdominal section.

2. In cases of large, fixed tumors, without pyloric stenosis, he abstains from all operative measures.

3. In cases of small, fixed tumors, and large movable or fixed tumors, with marked pyloric stenosis, he performs laparotomy and establishes a gastro-intestinal fistula.

The technique of operation was that of Billroth-Wolfler, great attention was paid to the preparatory treatment. Gastric lavage was carried out regularly for a long period; just before the operation the patient was given a cupful of milk with brandy, and the stomach washed out with water until it returned clear, and then several times with a solution of salicylic acid 1 to 1000. The intestine was evacuated several days before operation with laxatives, or, if the pyloric stenosis was marked, by high irrigation. Chloroform was employed in twelve and ether in two cases. The abdominal cavity was always opened by an incision in the median line, extending from the ensiform cartilage to the navel, or in case of larger tumor to the left and below the navel. If the tumor could not be readily withdrawn a small opening was made in the omentum with a blunt instrument to enable the operator to palpate the posterior surface of the stomach and the pancreas. If extirpation was justifiable, the small and large omentum were separated by means of aneurism needles from the growth which was then surrounded with compresses of sterilized gauze and the duodenum temporarily ligated with a strong silk thread. Then after application of sliding forceps to the affected side and digital compression to the healthy side of the stomach excision was performed in the usual manner and the duodenum united with the greater curvature. Silk was always employed for the sutures which formed a double row, one uniting the mucous membrane and the other the serous and muscular layers. The mucous membrane protruding at the junction of stomach and duodenum was excised to the extent of 2 to 5 m.m. The stomach wound was closed with a continuous suture, while the duodenum and stomach were united by button sutures. To protect the sutures they were covered with omental grafts.

The duration of the operation varied from a little over an hour to three hours, on an average two hours and eight minutes. On the day of operation the patients received only an enema of wine and water; on the following day a tablespoonful of sterilized milk every hour, together with enemata of wine and water, and egg and salt alternating every three hours. On the second day besides the enemata two tablespoonfuls of sterilized milk were given every hour; on the third, three to four tablespoonfuls every half hour; on the fourth half a cupful of milk with now and then some beer broth; on the eighth day scraped beef was allowed. During the first days hypodermics of morphine were administered from one to six times in twenty-four hours as required.—*Allg Med. Cent. Zig.; Intern. Journal of Surgery.*

Epigastric Hernia.—In view of the frequency of epigastric hernia and the ease with which it may be confounded with gastric affections, Dr. K. Bohland strongly urges that the general practitioner should give this subject his careful consideration. He has made a thorough study of forty cases of this form of hernia observed at the Medical Clinic of Bonn, and his results which are published in the *Berliner Klinische Wochenschrift*, are of more than ordinary interest. In all the cases, even in those in which no disturbance was occasioned by the hernia, marked tenderness on palpation existed. Another valuable symptom which was present in 50 per cent of the cases, is the occurrence of pain in stooping, which disappears in the dorsal posture, returning when the upright position is resumed or on stretching the body. The patients usually stated that they were free from pain in the morning, but that this rapidly developed when they were engaged in work, especially if compelled to stoop frequently. Sometimes the pain was referred to a certain portion of the abdominal wall, but more often it was felt within the abdomen. In Dr. Bohland's experience these pains experienced in stooping are most frequent and intense in those herniæ which can be only partially reduced.

Of especial importance are the gastric symptoms noted in Dr. Bohland's cases. In 25 cases (67 per cent), the patients complained of pains and a pressure feeling in the epigastrium, which seemed dependent upon the ingestion of food. The pains appeared after eating and usually rapidly, within an hour, and varied in character from a disagreeable feeling of pressure in the epigastrium to intense pain. The patients often noted that the pains were more marked after ingestion of solid foods, while under a light and especially fluid diet the discomfort was materially diminished. In but three instances were pains experienced before eating.

Loss of appetite, nausea and eructations were frequently noted, repeated vomiting only in five cases. Dilatation of the stomach attributed by the author to atony was present in but four cases (10 per cent); more frequently there was disturbance of the function of the stomach. In 22 per cent of the cases the patients complained of strongly acid eructations, and examination of the gastric juice disclosed marked hyperacidity. The intestinal function was also disturbed; in 30 per cent of the cases there was morse or less constipation, and in three cases the stools were variable, sometimes diarrheal and sometimes costive.

About 50 per cent of the patients suffered from decided neurasthenic disorders. They frequently complained of headache, vertigo, palpitation of the heart, tendency to sweating. They felt weak and easily fatigued. even when no considerable emaciation was present, and some were prevented from laborious work by the violent pains which followed. The inability to earn a living induced a marked condition of hypochondriasis in some of the patients. Owing to the recurrence of painful sensations in the epigastrium which seemed directly connected with the taking of food, they regarded themselves as suffering from a severe, incurable gastric affection.

In two cases where well developed hernia existed in the epigastrium, no symptoms were present aside from the tenderness on pressure over the tumor.

That the above mentioned disturbances were dependent upon the hernia is demonstrated by the observations of Lucke, Konig and Witzel, who by operative treatment of the hernia have caused the entire disappearance of these symptoms.

Among Dr. Bohland's cases only seven consented to an operation, which was followed in six instances by rapid recedence of the disturbances. In other case in which the hernia had been present for five years the hypochondriasis persisted in a milder degree.

According to the observations made thus far, the success of operative measures in epigastric hernia will be the more certain, the earlier it is resorted after the development of the hernia. Even in that event, however, the prognosis as regards a permanent cure is not absolutely favorable, since recurrences are by no means infrequent.—*International Journal of Surgery.*

Toxicity of Scalded or Burnt Tissues.—In 1880 Lesser made some experiments to ascertain the effects of injecting the blood of a burnt animal into a healthy one. He seems, however, to have succeeded only in producing certain functional disturbances, never a fatal effect. Vassale and Sacchi (*Rif. Med*) followed a similar line of investigation, and studied the effect of extracts of parts actually burnt or scalded, and of the non-affected parts of the same animals, on healthy animals of the same or allied species. Their researches show clearly that the juice of parts burnt has a much more toxic effect on animals of the same species than that of the non-burnt parts of the same animal. This last juice in its turn has a toxicity much greater than that of the juice taken from corresponding parts of a healthy animal, which is, in fact, harmless.

All the juices from a burnt animal are highly toxic, and generally produce lethal effects whether injected hypodermically or into the veins of normal animals. The chief pathological effects produced were marked subserous hemorrhages, in one case especially marked in the duodenum.

Filtration through porcelain somewhat diminishes but does not destroy the toxicity of the juices; boiling, however, renders them innocuous, which lends support to the view that the toxic principle is an albumose, or some substance coagulable by heat. These results are of considerable interest as bearing on the mode of production of the after effects of burns, attributed by Foa, as early as 1881, to a process of auto-intoxication (*Riv. Sper. di Freniatr.*, vol. 7).

Not long ago Kianitzin (*Ann. di Chim. e di Farmacol.*, 1892) examined the blood, organs, and urine of animals suffering from burns, and by Brieger's method obtained a substance from them which was not to be found in normal animals similarly treated. When injected into normal animals, it produced torpor, somnolence, reduction of temperature, slow shallow respiration, diarrhea and death. The necropsy showed nothing but hyperemia of the brain and kidneys. This substance was classed by its discoverer with muscarine, neurine and peptoxine. More recently, Reiss (*Archiv f. Dermat. u. Syph.*, I. 1893) studied the effects of subcutaneous injection of the urine of patients suffering from burns. Such urine was very toxic, and it was found that it owed its properties to the presence of bases of the pyridine group. In cases of severe burn he recommended the speedy removal of the sloughed parts so as to minimize the absorption of poisons formed in the lesion. Vassale and Sacchi are of a similar opinion. They also recommend the employment of every possible means—such as keeping the burnt limb as low as possible, and the application of bandages—of preventing the too rapid absorption of the degeneration products, the toxicity of which they have so fully established.—*British Medical Journal.*

The Anti-Toxic Function of the Liver.—Padua through Prof. Lussana, Brussels through Prof. Heger, and Geneva through Prof. Schiff, have of late years been associated with special investigations into the physiology and pathology of the liver, and now Rome has fallen into line with these sister schools by a series of interesting researches into the same viscus. It had been already established by the above-named biologists that the liver possesses a power of retaining certain poisonous alkaloids in high proportion and in their most active state—that is, when injected in the circulation and not merely absorbed by the mouth.

Explanations have been hazarded as to this protective power of the liver against these toxic agents, and quite recently Dr. Schupfer, working under Prof. Colasanti,

Lecturer on Physiological and Clinical Chemistry in the University of Rome, has contributed elaborately to the solution of the question. His experiments were made on frogs—animals which tolerate removal of the liver well, and keep alive for days after the operation, nay, in some cases, for weeks. The alkaloids were injected into frogs in their normal condition and into those which had been operated on, and every care was practiced to watch the phenomena resulting. The alkaloids used were cocaine, atropine, apomorphine, and pilocarpine.

Dr. Schupfer embodies his conclusions in a memoir read before the Accademia Medica di Roma, and they are to the following effect: The liver, by its sole intrinsic action due to the specific activity of its cellules, can diminish the toxic power of the alkaloids with which it is brought into contact. Such action is manifested not only in the case of poisons introduced through various channels into the organism, but also in the case of poisons elaborated internally within the organism itself in consequence of putrefactions or of products due to the activity of the tissues. From this he deduces a practical lesson—that, namely, of having recourse to internal disinfections and to a special alimentation, so as to obviate or to minimise "auto-intoxication" in all those maladies in which the liver does not perform its functions normally.—*Lancet; Am. Med.-Surg. Bull.*

Hydrotherapy in Fractures.—More than twenty years ago the writer adopted the practice of treating fractured limbs for a short time with various applications of water before putting the parts into a permanent dressing. By this means it is found possible to avoid much of the pain, swelling, and discomfort which the patient usually suffers during the first few days after the application of the dressing, and to secure more speedy and complete union, with less disability of the overlying muscles and the contiguous joints. We have frequently found hot fomentations most useful in these cases. The application of hot fomentations, or soaking the affected parts in hot water for an hour or two, almost invariably has the effect to relieve pain from circulation in the contused vessels, to prevent swelling, to overcome muscular spasm and rigidity, and to promote the recovery of the patient. If there is much displacement of the fragments, it is, of course, important that the parts should be drawn as nearly as possible into position. The parts can be retained by a temporary pasteboard splint and liggt bandage during the application until the permanent dressing is applied. Dr. T. Morton, of Philadelphia, recently reported a case (*New England Medical Monthly*) in which an ununited fracture of the leg was made to unite three or four months after the accident occurred by applications of hot water and massage.—*Modern Medicine.*

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NOTES AND ITEMS

The Corset in France.—A petition has been presented to the French Chamber of Deputies against wearing the corset as injurious to the health of the female part of the population. The Chamber solemnly received the petition and passed it in committee. Meantime a Paris journalist has been gathering the opinions of notable women. A great many of them denounce the corset, declaring it to be unhealthy and ungraceful. They say it turns the figures into one commonplace mold, spoiling pretty ones and doing nothing to improve the ugly ones, yet most of the fair ones interviewed, who expressed themselves in this fashion, wore the objectionable garment.—*Medical Record.*

Increase of Small-Pox.—Toward the close of November there was an increase of the number of cases of small-pox in localities previously infected, and a number of newly-infected localities were first reported. The disease, however, seems to be kept fairly well in hand wherever the health authorities are duly notified. On the 26th there were 106 cases in Milwaukee and 64 in Chicago. Infected persons escaping from these cities continue to carry the contagion into other localities; a passenger from Chicago on a Grand Trunk train was found on his arrival at Mitchell, Ontario, November 24, to be suffering from the disease; and a family which broke quarantine at Milwaukee and went to Sandwich, Ill., caused an outbreak at the latter place, resulting in a large number of cases and two deaths up to the 26th ult.

A True Story.—A correspondent sends the following, for the truth of which he vouches: A young doctor who began his practice in Texas, west of Houston, was called to a confinement case in which he, being green and nervous, naturally had some trouble, the patient seeming unable to make the supreme effort for final expulsion. The only other occupant of the wretched quarters was an old crone in a sun-bonnet who was silently but steadily rocking herself near the foot of the bed. Finally the old woman croaked out, "Doc, I wouldn't bother any longer with that woman, I believe I'd quill her and have done with it." The medical man not knowing what "quilling" meant answered that he did not quite see the necessity for that yet. The old woman repeated this suggestion several times until finally the nervous, exasperated man turned angrily on her and said, "Madam, I'll be d— if I will do it. If you want to quill her you can do so, but I won't." The crone took from the wall a turkey-wing and drawing a feather from it proceeded to fashion something like a long quill tooth-pick and, filling this with snuff from her own private stock leaned over the patient and as the next pain came blew the snuff into the woman's

nostrils. Quick as a flash the woman responded with a giant sneeze and the child was born with the sneeze. "Thar," said the old woman, radiantly, "I knowed mighty well that thar bust would make her break her holt." And it did, to the great instruction of the attending physician.—*Medical Record.*

Microscopy of Factory Dust.—The noxious effects of factory dust are due—apart from bacilli—either to its chemic composition or to its structure. As to structure, the most injurious forms are those of irregular shape, and the smaller these are the farther they penetrate the bronchi and the more intense and disastrous their action. The following varieties of factory dust are, according to *Le Revue d'Hygiene*, to be considered very dangerous: 1, metallic; 2, some kinds of stone dust; 3, dust of animal origin, such as shell, horn and whale-bone; 4, all kinds of wood dust; 5, dust of vegetable origin—principally jute; 6, dust from animal fiber, except that of wool and silk factories; 7, dust of flouring mills and tanneries under certain conditions and for the workmen who are constantly exposed; and, lastly, 8, the dust of rag shops and that from carpet beating. The study of the effects of these various forms leads to the practical suggestions that fans should be employed to keep the air of shops and factories as free from dust as possible and that, in certain industries the workmen should be furnished with suitable ventilating masks.—*Jour. Am. Med. Ass'n.*

Pathogenesis and Treatment of Influenza.—It is well known how popular the quinine treatment of influenza was when that *maladie a la mode* visited our shores. So far as my knowledge goes this mode of treatment was strictly empirical, no laboratory experiments having been made on its action. The medical world will therefore be glad to know that the experiments of M. Mosse have confirmed the good opinion entertained of the value of this drug in combating "la grippe." Rabbits were inoculated with the blood of influenza patients, and then quinine was injected subcutaneously. Four out of six of these animals remained unaffected, while test rabbits unprotected by the drug became very ill. Again, rabbits inoculated with pure cultures of Pfeiffer's microbe (furnished by M. Roux) were quite capable of supporting this inoculation, provided subcutaneous injections of quinine had been previously practiced. Of three unprotected rabbits, two were killed by the inoculation. Efforts to cultivate (on gelatine) the pathogenic bacillus from the blood of an influenza patient were always unsuccessful. In one instance the pneumococcus, and in another the staphylococcus were obtained. The blood of animals experimentally infected with influenza yielded the specific micro organism only on one occasion. This culture was endowed with but feeble vitality, and proved to be non-virulent. M. Mosse arrives at the conclusion that the influenza bacillus is found only exceptionally in the blood, and that when so found its virulence is enfeebled. It is, moreover, unable to live in an organism in which the drug in question circulates, viz., quinine. It would thus appear that the exhibition of quinine as a prophylactic is justified; that it should be prescribed in large doses as an abortive agent; and that, finally, grave secondary infections, especially if due to the pneumococcus, call for hypodermic injections of quinine.—*Lancet; Medical Record.*

Changes in the Faculty of the Memphis Hospital Medical College.—From the Memphis *Medical Monthly* we learn that Prof. W. B. Rogers has been elected dean of the faculty of the Memphis Hospital Medical College, vice Prof. F. L. Sim, deceased. In choosing Dr. Rogers for this office the faculty has made a judicious selection. With his former experience in the same position, thorough knowledge of college affairs, and a general popularity with students and the profession, it is safe to predict for this institution a large measure of prosperity under his administration.

The chair of Principles and Practice of Medicine having been made vacant by the death of Prof. Sim, B. G. Henning, M.D., for many years Professor of Materia Medica and Therapeutics in the same institution, has been elected to that position. Prof. Henning is highly gifted in the art of imparting instruction pleasantly and impressively, and will no doubt maintain the degree of efficiency in his new field, which made his able and lamented predecessor popular with the students.

Dr. H. L. Williford, for several years assistant to the chair, succeeds Dr. Henning as Professor of Materia Medica and Therapeutics. Prof. Williford is already a teacher of much experience, having been for a number of years lecturer on clinical medicine. He is a speaker of great force and clearness, a man of tireless industry in college work, and is in much favor with the class.

Prior to Dr. Sim's occupancy of the dean's chair, Dr. Rogers was dean for five years, and during that period the attendance more than doubled.

Advice to Physicians.—Various letters come to us asking methods of establishing one's self in practice. How to begin is the very pertinent question of young women in the profession who are standing, diploma in hand, at the door of their professional life. The question of location is usually decided by many outside influences, but if everything else is equal it is wise to go where there are other women practicing successfully. They have educated and familiarized the community with women as physicians, and this is a long step gained. A growing town, in a growing part of it, with an office fully equipped and with it a businesslike appearance, will do much toward declaring your intentions to the community. Having done this, call on your brother and sister practitioners, and after due length of time join your local medical society and attend the meetings regularly. This is a point which is frequently overlooked and "pity 'tis, 'tis true." Go to as many meetings as you can; they serve to keep you in touch

with the best fellowship of the day; they inspire a healthful rivalry and a spirit of emulation that will augur well for you in the present and future. Whenever you are invited to read a paper, prepare it from your own experience, so far as possible citing the most approved authorities in support of your position. And, having taken a position and being convinced that it is tenable, hold to it until it is demonstrated fallible.

People with opinions are always respected. Whether we agree with them or not, it is the physician who writes who makes his reputation, and it is reputation which brings success. I do not mean those who compile from others' work, but I mean those who, in the love of their fellow men, set down that which they have found to be practicable and good for others to know, who have crystallized their thoughts into writing.—*Womans' Medical Journal.*

Pandemic of Diphtheria.—Reports from all parts of the country, except the South Atlantic area, indicate a wider diffusion of diphtheria than ever before recorded in the United States (*Jour. Amer. Med. Ass'n.*). The mortality does not seem to be unusual, with occasional exceptions, and, in the absence of any general system of compulsory notification of the contagious diseases, the number of cases can only be inferred from the death returns, from the indications of popular alarm in the closing of schools, the enforcement of quarantine, etc., and from the overcrowded condition of the isolation hospitals. Importation of the antitoxin serum has been practically suspended, owing to the growing home demand in France and Germany, in which countries are the only establishments for its production on any considerable scale. Thus far the output of the British Institute of Preventive Medicine has been only sufficient to supply one of the London hospitals, and the product in this country is even less. There is no abatement of the enthusiasm and interest of the profession and the public of the countries of Roux and Behring, and it is especially gratifying to note again the generosity and true scientific spirit with which each of these two eminent savants insists on the recognition of the other in connection with what, up to date, seems to be one of the most brilliant therapeutic and prophylactic advances of the century. The latest occasion of the manifestation of the spirit was the presentation to Dr. Roux of the Grand Diplome d' Honneur by the Sauveteurs de la Seine. In expressing his thanks the Professor said a discovery was attributed to him which he had not made; he had only applied it, and he included in the evolution of the discovery the names of Pasteur, Loeffler, Koch and Behring. Considerable dissatisfaction is expressed at the course of the British Institute in withholding the name of the hospital to which is furnished all the serum prepared by the Institute, and which, in turn, surrounds itself and the results of its antitoxin treatment with what is styled an "absurd mystery." It is urged that it is the bounden duty of the Institute—after making a successful appeal to the public for the funds necessary to produce the serum—to see to it that the product is so used as to secure an authoritative verdict upon the merits of the treatment in the shortest possible time, and that the research necessary for such verdict "would have taken little more than six weeks to complete," while with the present policy of secrecy "the medical profession can not obtain a definite opinion for an indefinite period." The situation seems to be similar to that in this country. There, as here, the profession is inclined to be skeptical and demands conclusive proof; and there it will refuse to accept as such proof results obtained through the action of a non-official volunteer organization operating in a favored hospital whose identity is concealed and whose clinical records are unduly withheld. So far as the profession of this country is concerned, its demand was concisely expressed in a recent issue of the *Journal*: Pending an adequate supply of the serum with which to make individual tests only an authoritative report, after due investigation by a National commission, composed of members selected for their attainments in the branches of medical science involved in the modern system of serotherapy, will be accepted as conclusive of the merits or demerits and of the scope and limitations of the diphtheria antitoxin.

A Moderate View of Vivisection.—In response to an invitation to attend the Eleventh International Congress for the Prevention of Cruelty to Animals, the President of our American society, Mr. John P. Haines, has written a letter, published in the September number of *Our Animal Friends*, in which we are greatly pleased to find the following moderate and perfectly justifiable expression (N. Y. *Med. Jour.*).

"On the painful and difficult subject of physiological experiments on living animals, which pass under the name of vivisection, I trust that the congress may proceed with equal caution and resolution: with caution, because there are two sides of this question, and it is possible to injure our own cause by willfully ignoring that fact; with resolution, because there is one point in respect of which we have no right to compromise.

"Speaking for myself alone, I am not prepared to justify any of the operations which pass under the general name of vivisection. If it be admitted that animals have rights, I do not see how those operations can be excused, unless on the ground that it is lawful to do evil that good may come of it, or, in other words, that the end justifies the means. At the same time, I must admit that, so long as men justify war, with its attendant desolation, miseries, wounds, and death to human beings, they can not be expected to refuse the prospect, or even the possibility, of benefit to man at the cost of suffering to other animals. The question which the world asks is simply this: Whether, as a matter of fact, physiological experiments have so promoted medical science as to benefit the human race? A minority of the medical profession answers in the negative; a vast majority in the affirmative; and, while the hearts of

men are with the minority, their judgments are swayed by the prepondering judgment of the majority. For this reason, to wage an indiscriminate warfare against those physiological experiments is to set not only the medical profession, but the world at large, in opposition to us, and so to impair our own power in many departments of our work in which it should be our highest aim to form the public mind and create a public sentiment. It is therefore from a sense of duty that I suppress my personal feeling in the expression of the hope that the congress may not consider it necessary to pronounce an indiscriminate condemnation on all forms of vivisection.

"On the other hand, I sincerely trust that the congress may speak with energy in denunciation of the wanton and willful cruelties which are daily perpetrated in the name of science. I consider it the duty of all who are devoted to the protection of animals to denounce in unequivocal terms a multitude of atrocities for which there is no excuse.

"It is an inexcusable atrocity to subject any animal to pain which can be prevented by a conscientious use of anesthetics.

"It is an inexcusable atrocity to perform painful operations upon animals merely for the purposes of demonstration to classes of medical students. The results of such experiments are well known. To repeat them is an unnecessary and gratuitous cruelty.

"It is an inexcusable atrocity to permit medical students and mere laymen to repeat painful physiological experiments which have already been performed, and needlessly performed, many thousands of times.

"I might greatly enlarge this list, but I would submit to the congress this important point, that, by confining our objections to such wanton and gratuitous cruelties as these, we may hope to secure the support of right-minded members of the medical profession. The moderation of our own society in this particular has won for it the approbation of many medical men; and, if the medical faculty itself could be won to share our feelings in this matter, we should gain an influence for the protection of our dumb clients which is to be gained in no other way."

VETERINARY

Method by Which Immunity is Acquired Against Infectious Diseases.

Translated by F. Horday, M.R.C.V.S., in the *Veterinary Record.*

Vaccine and the Application of Serum to the Cure of Disease.

[concluded]

If the inoculation had as its result the transformation of the tetanic poison into an antidote, it would be necessary incessantly to inject small quantities of this poison in order the blood of the inoculated animal should remain antitoxic.

But MM. Roux and Vaillard have shown that this was not so, and that there was no relation between the tetanic toxine injected and the antitoxine produced in the blood. If this relation existed, and the animals inoculated against tetanus be bled often, the provision of the antidote ought to be rapidly exhausted. But this is not the case.

MM Roux and Vaillard have withdrawn in a very short time, from a rabbit made immune against tetanus, a volume of blood equal to the total volume of that which circulates in his body, without lowering the antitoxic power of his serum. Then, if the serum contains an antitoxine, this antitoxine is not produced by the changes produced in the toxine, but by the system accustoming itself to the manufacture this antitoxine. It is precisely this last hypothesis which is now maintained by MM. Bouchard, Metchnikoff, Raux and Buchner.

According to these eminent experimenters, the microbes and their poisons, when they are received by the system in small doses, have the effect of arousing the activity of the tissues and, above all of the white corpuscles of the blood, which defend themselves against these invaders and secrete a substance which neutralizes the poison.

It seems, says M. Roux, that the toxine acts like a stimulus on the cells which secrete the antitoxine. But it is necessary to add that even when this toxine has disappeared from the system the cells which have been influenced by them continue to secrete this substance, no longer exactly antitoxic, but charged with reinforcing the defensive and protective properties of the cellular elements.

It is even very probable that these defensive substances are normally secreted in small quantities by the system, and that the effect of inoculation is to develope these secretions. In short, the normal serum of the blood is an unfavorable soil for some microbes, as has been shown by Buchner.

Perhaps, in people of strong constitution, even this secretion itself is sufficient to ward off some infections.

Perhaps the best way of avoiding illnesses is, to look well after oneself and one's energy by a sound hygiene which puts all the cells of the system in a positon to resist the invasion of the poisons which surround us.

It is certainly the most practicable means of rendering oneself invulnerable against the great majority of infectious diseases, because it is impossible to cause us to be vaccinated against all the contagious effections which threaten us. Happily this reinforcing of the system by a vaccine which acts as protection against danger sometimes proves to be a shelter against several contagions.

The cells armed against one enemy are also prepared against another.

Prof. Bouchard has observed that a rabbit rendered immune against the bacillus of blue pus is also immune to the virus of erysipelas.

M. Duntschman has stated that the serum of animals

rendered immune against symptomatic anthrax acts on the bacillus of acute septicema; in the laboratory of M. Metchnikoff, Mr. Latapie has observed that the serum of guinea pigs which have been inoculated with the bacillus of Kiel (a chromogenic organism from certain river water) is very efficacious to prevent choleraic peritonitis.

Serum from a healthy horse, mixed with the venom of the cobra, in no way prevents its action, but serum from a horse protected against tetanus renders the venom which is added to it innocuous.

This antitetanic serum, injected before the venom, greatly lengthens the time before death takes place, and even prevents it if given in repeated doses. There is, however, very little resemblance between the venom of serpents which kills by asphyxia in a very short time and the tetanic poison which only manifests its action after a period of incubation. The serum of fresh guinea-pigs has no action on the venom, that of guinea-pigs inoculated against rabies is antivenomous in a very high degree. When mixed with the venom in a glass it becomes inoffensive; injected as a preventive measure it protects against the poison.

Rabbits inoculated against rabies support 4 or 5 times fatal doses of venom.

It is not surprising to observe that, by rendering a rabbit refractory to rabies, one gives it at the same time immunity against snake bite?

These very interesting experiments of M. Roux show that the antitoxic serums are not chemical agents which chemically destroy poisons or venoms. I know very well that some will object to the famous experiments of Behring and Kitasato. These two experimenters placed in a vessel 900 parts of a solution of tetanic toxine of which $^1/_{1000}$ part of a cubic centimeter would kill a mouse. Then they placed in the same vessel a portion of the serum of an animal rendered immune against tetanus. About half a c.c. of this mixture can be injected into a guinea-pig without giving it tetanus, although it only includes $^{10}/_{100}$ part of c.c. of serum. At first sight, the toxine of tetanus would appear destroyed or neutralized by the antitoxine of the serum from the immune animal; it appears as if a healthy base has come to neutralize an unhealthy acid, forming an inoffensive salt. It has nothing unusual in its appearance, and the experiments of MM. Roux and Vaillard show that the toxine and the so called antitoxine remain side by side in this mixture. They injected in 5 guinea pigs 9 half c.c. of the mixture (toxine 900 parts, serum 1 part); none of them took tetanus.

To 5 other guiena pigs of the same weight and in the best of health but who had been rendered immune sometime before against cholera, they gave the same mixture and the same dose. Tetanus resulted.

Guienea-pigs which receive at first a centicube of protective serum (of which a trillionth part is active) that is to say a quantity capable of rendering them immune thousands of times, and then a fatal dose of the tetanic toxine, show no ill effects under ordinary conditions.

Several amongst them will take tetanus if afterward injected with some microbic product. A quantity of antidiphtheric serum, amply sufficient to preserve fresh guinea-pigs against a fatal dose of virus or of toxine, does not retard the death of guinea-pigs of the same weight who have previously been inoculated with microbic poisons even although they have perfectly recovered.

It is then quite clear that the toxine of tetanus, or of diphtheria, is not destroyed by an antitoxine developed in the serum of the animal inoculated.

The toxine always remains, since it is able to cause tetanus in animals whose power of resistance has become weakened.

Immunity is then acquired, not in a chemical manner, but by a complex adaptation of the organ to the microbic poisons.

The serum of the vaccinated animal contains protective substances against the bad effects of the poison. It does not lose these properties when injected into another animal or a man. As it contains protective substances, something like tonics and stimulants of the organism, the cells are forced by its presence to continue to secrete these protective substances.

They possess rapidity, the power of tolerance and of becoming accustomed to it.

We are now able to admit that vaccination by the attenuated virus, or by the treatment with prepared serum, is always a certain protection to the system previously prepared by having obtained tolerance against the virus.

This security becomes lessened when the system has been weakened by fatigue or by previous illnesses. The cells are no longer active; they no longer reply to the stimulus of the weakened toxines; they do not accustom themselves to small doses of poison.

The vaccines disappear and the toxines remain; or rather the ones are added to the others in order to cause a fatal effect. Let us then take care if we do not wish to lay ourselves easily open to infections.

But, on the other hand, certain normal serums naturally possess refractory powers for the subject who owns them, or confer immunity without any preparation to the subjects in whom they are inoculated.

Besides, the serum of a healthy man and some times also that of the horse, as M. Pfeiffer has shown, have very marked properties for conferring immunity against intra-peritoneal cholera. It seems then that this preventive power of the serum against living virus is not specific, inasmuch as one meets with it in animals who have never experienced the action of the microbe against which their blood confers immunity. This is not very surprising because, according to M. Metchinkoff, it does not act by its power as an antitoxine, but by its power as a stimulant which excites the function of the cells.

We are able then to vaccinate ourselves by rendering the cells of our body sufficiently vigorous to destroy the poisons which are able to attack us. Do not let

us forget that the absorption of one poison prepares us so that we cannot resist another chemical or microbic poison.

M. Robert Wurtz has shown that animals poisoned by arsenic had their organs invaded by the microbes of intestinal putrefaction, who normally remained confined to the digestive tract. Life is a struggle between the organic cells and the chemical or microbic poisons.

When the poisons are the masters, the microbes ar rive and invade everywhere.

As we have some difficulty about ascertaining whether we are liable to attacks from the diphtheritic poison, MM. Roux and Loeffler advise people who are in close contact with diphtheritic patients (such as doctors, nurses or parents), to allow themselves to be inoculated subcutaneously with serum from a protected horse.

It is well to know, too, thanks to the researches of eminent scientists and to those particularly of Dr. Hutinel (the distinguished doctor of the hospital for poor children) that the saliva of persons cured of diphtheria preserves for a long time diphtheritic bacilli which are no longer virulent for the patient who carries them, but which are able to convey the contagion to subjects who have never had diphtheria. Thus, children who have had diphtheria ought not to return to school until their saliva has been examined.

Finally we may add, that as soon as the false membranes appear or respiration becomes difficult, it is nec essary to inject 20 c.c. of the serum of an animal inoculated against diphtheria; then nearly all the patients would be cured whilst to-day more than half die. This splendid result has been obtained by a long series of patient investigations.

Klebs discovered the bacillus which causes diphtheria. Then Loeffler showed that this microbe, discovered by Klebs, was really the specific cause of the diphtheritic invasion and the production of false membranes.

Afterwards Roux and Yersion proved by some very beautiful experiments that the diphtheritic bacillus could produce a poison, a toxine and that this poison was that of the diphtheric infection.

At length a large number of experimenters, MM. Roux, Voillard, Fraenkel and Behring, protected animals against diphtheria by inoculating them with progressively increasing doses of the diphtheritic poison, either pure or weakened by chemical treatment.

During this time the foundation of the doctrine of immunity by blood serum treatment was laid.

It commenced with the experiments of Maurice Raymond on the blood of calves inoculated with cow-pox, and those of MM. Richet and Hericourt on the serum of dogs and rabbits protected against a special form of septicemia.

But its importance was only perceived after the works of MM. Behring and Kitasato on tetanus and diphtheria. The blood serum treatment gives us an efficacious remedy against this terrible disease.

Here we see how, by sucessive steps and slow stages, German and French science has commenced to discover the real and definite remedy against diphtheria.

This discovery opens up to us a bright future, and leads us to hope that in time, with the persevering energies and efforts of all scientists, we shall be able to overcome with efficacious and almost infallible remedies the diseases which still devastate humanity, such as tuberculosis, typhoid fever, and pneumonia. Little by little the practice of medicine will be transformed—the art will become a science.

'Tis true that a Pasteur, who, with one thought, clears away the thick clouds from the obscured horizon and shows us the blue sky beyond, is not found every day. —Dr. G. Daremrerg, in *Journal des Debats*.

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FORMULÆ

Menorrhagia.

℞ Fl. extr. ergotæ, - - - - - - - fℨij.
Dioviburnia, - - - - - - - - - fℨiij.
Syrup. cinnamom, - - - - - - - fℨj.
M.
Sig. Teaspoonful three times a day.

Opium Habit.

℞ Neurosine, - - - - - 1 bottle.
Sig. Teaspoonful several times a day.

Phthisis.

℞ Codein. sulfuric., - - - - - - - gr.j.
Antifebrin, - - - - - - - - - ℈ij.
Alcohol, - - - - - - - - - fℨij.
Aq. menth pip.,
Syrup. tolu., - - - - - - - aa fℨj.
M.
Sig. Teaspoonful four times a day.

Varicose Ulcer.

℞ Sennine, - - - - - - - - - ℥j.
Vaseline, - - - - - - - - - ℥j.
Zinc. oxydat. pulv., - - - - - - - ℥ij.
M. f. ungt.
Sig. Apply on lint.

Injection in Dysentery.

℞ Sennine, - - - - - - - - ℥ss.
Tinct. opii, - - - - - - - - ℈j.
Aq. destill., - - - - - - - - Oj.
M.
Sig. Give castor oil first, then give injection.

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ORIGINAL ARTICLES

The Rights and Duties of Medical Witnesses.

BY W. S. KERR, LL.D., MANSFIELD, OHIO.

Read before the Twentieth Annual Meeting of the Mississippi Valley Medical Association, held at Hot Springs, Ark., November 20, 21, 22 and 23, 1894.

The scope of this paper carries me within the gate of medical jurisprudence and a little beyond but I do not enter far its inviting domain. I deal largely with the rights of physicians and surgeons when subpoenaed as expert witnesses and with the duties incumbent upon them as members of a learned and honorable profession when they are called upon to testify as medical experts.

Medical witnesses have been extravagantly eulogized and unmeasurably condemned by courts and law writers. They merit both the eulogium and condemnation. When they traffic in their evidence and appear as hired advocates, the condemnation is just; when they appear as members of a great and enlightened profession, to aid in the administration of the law, and testify conscientiously, no tribute is undeserved.

The weight of medical expert evidence depends upon two qualities; first, the skill, learning and experience of the witness, and second, his honesty. The latter quality should be and can be alike in all; the former, in the nature of things, must differ and vary in degrees almost infinite in number. A physician, whose practice has been confined to the small towns or the country, could not be an Ericson, nor one of three years' experience an Agnew. But all are admitted to testify to those things which they have studied and practiced, and the cause of truth and justice demands that according to their lights, they should testify the truth, the whole truth and nothing but the truth.

And it should be recollected that not only the spirit, but the form of the oath covers an opinion, as well as facts, testified to by expert witnesses. I do not want to lecture or read a homily on duty to the medical profession, but the following extracts from court opinions and eminent writers will not only justify the few observations I have made, but will also show how your high standard has been lowered here and there along the line, by testimony calling out these criticisms. But that you may see how well the line has been held at other points, I quote alternately censure and praise, or as earlier suggested, condemnation and eulogium.

A Scotch judge of that rugged integrity characteristic of his people, once said to a jury, referring to the medical evidence submitted on the trial: "The evidence is as unsatisfactory as any I have ever seen. It leaves on the mind the distressing impression, that the science of medicine is simply the science of guessing and experts. Different doctors with equal confidence and equal dogmatism express contrary opinions upon the same condition of things. I advise the jury to exercise their common sense, throw overboard the medical opinions and go by the facts."

A Texas Court once said: "The opinions of the medical men are received with great respect and consideration, and properly so."

Judge Redfield in his treatise on the law of wills says: "Medical experts are beginning to be regarded much in the light of hired advocates, and their testimony nothing more than a studied argument in favor of the side for which they have been called. So uniformly has this proved true, in our limited experience, that it would excite scarcely less surprise to find an expert called by one side testifying in any particular in favor of the other side, than to find counsel upon either side arguing against their clients, in favor of their antagonists."

The Supreme Court of Pennsylvania says: "It is well settled, that the knowledge and experience of medical experts is of great value."

An Ohio Court said in reference to evidence in a murder case: "It would be but a farce to try such a question upon the strength of medical opinions, and to regard the weight of evidence always on the side which produced the greatest number."

The Supreme Court of North Carolina says: "The opinion of a well instructed and experienced medical man upon a matter within the scope of his profession, and based on personal observations and knowledge, is and ought to be carefully considered and weighed by the jury in rendering their verdict."

The Illinois Supreme Court says: "These doctors were summoned by the contestants as 'experts' for the

purpose of invalidating a will deliberately made by a man quite as competent as either of them to do such an act. The testimony is worth but little, and should be received by courts and juries with great caution. * * * It must appear to every one, but few wills could stand the test of the fanciful theories of dogmatic witnesses. * * * In such cases the opinions of neighbors, if men of good common sense, would be worth more than all the experts in the country."

The Ohio Supreme Court says: "Medical testimony is of too much importance to be disregarded."

Mr. Justice Grier of the United States Supreme Court said in delivering an opinion: "Experience has shown that opposite opinions of persons professing to be ex perts may be obtained to any amount."

The Georgia Supreme Court in speaking of medical evidence says: "It is entitled to great weight and consideration."

Judge Campbell of the Michigan Supreme Court said: "The experience of courts with the testimony of experts has not been such as to impress them with the conviction that the scope of such proofs should be extended."

Thus has the shuttle of criticism, favorable and adverse, gone to and fro, weaving in the warp and woof of jurisprudence the history of the medical witness. In the court room he has won laurels for his profession —in the the court room he has brought reproach upon its fair name and fame. But it should be remembered that the medical expert is not the only expert whose testimony has been the subject of unfavorable judicial comment. Other experts appear quite as frequently as do physicians and surgeons, and when their evidence has been afflicted with the same vice it has been similarly characterized.

To avoid this unjust censure opinions should be regarded as facts stated under the solemnity of an oath and not as arguments to be urged in behalf of the side calling the witness. Of course opinions cannot be measured in reference to their soundness, as facts can be squared to accord with the truth; there must be more latitude to give room for the difference in mental processes and impressions, but they have boundaries or else there is no exactness in medical science. Exactly opposite opinions upon the same hypothesis prove one of two things—either that the witness lacks veracity or knowledge or that the science is too elastic to be the measure of important rights.

Courts have been called upon to unfavorably criticise medical witnesses in respects other than in reference to opinion evidence. An investigation involving the con dition and position of organs which can be examined physically and ocularly ought not to differ materially in the result. The evidence of such examination and its result presents facts and not opinions. A case illustrating this point came under my own observation in a case in which I was engaged as counsel. A woman sued a municipality for damages. She claimed to have prolapsus of the uterus from a fall upon a sidewalk. During the trial eight physicians examined her—four at one time and four at another—but all within an hour or two. Four testified that her condition, in respect to the matter complained of, was normal.

The other four, and their examination had been contemporaneous, testified as follows: One said that he found the position of the organ abnormal in that it leaned too far back, the second that it leaned too far to the right, the third that it leaned too far to the left, and the fourth, a Nestor in the profession, said he found it too straight up.

Another case tried recently in an Ohio court illustrates how physicians may fall short in making the test which more than any other would measure the capacity which is always the desideratum in such investigations. An application was made for the appointment of a guardian for a man who, in the meridian of his powers, was one of the most celebrated physicians and surgeons in Ohio, upon the ground that he had become an imbecile, and was incapable of managing his business. Three of the most celebrated and able mental alienists in the State testified to his soundness of mind and his capacity to do business. Their investigations, although made with ample opportunity, were limited to conversations upon subjects relating to events long past or about items of property which he had possessed for years.

An order of the court was made to examine the alleged imbecile and such examination was made. Two very simple tests did more to solve the question of incapacity than all the expert evidence. He was told to add a column of five figures. The first three were added correctly but he could add no further. He was next given $1.77 in change, consisting of seven or eight pieces and although he was able to designate the pieces after considerable effort, he was *unable* to tell the aggregate. A man capacited to do business should be able to add five figures and count a few pieces of money.

The cases in which the physician is called upon to aid the law are legion. If I were to undertake to enumerate them the schedule itself would extend beyond the reasonable limits of a paper. Judicial history shows that the physician, as an expert witness, shines brightest or suffers the most serious discomfiture in cases of insanity and poisoning. Both of these afford a broad field for the exhibition of brilliant professional learning and acumen, and in legal investigations usually attracting large public interest and attention. They are fields worthy of any man's conquest even though he has to burnish his weapons in the light of the midnight lamp.

It should be recollected also that it is only in doubtful cases where the medical witness becomes an auxiliary to the law. He should not only be able to describe and classify the subject about which he testifies, according to the science of his profession, but he must bring his knowledge down to the comprehension of the twelve ordinary men who sit in the jury box. Because, however learned he is, if those whom he is to enlighten fail

to comprehend him he has failed of the object and purpose of his being a witness. Of course in measuring the duty of the medical witness it should be borne in mind that the majority of medico-legal questions are beyond the field and lie far outside the everyday path of most physicians. Nineteen-twentieths of their practice, medical and surgical, never relates to a matter which is the subject of litigation. It requires study, much study, to be a giant in any profession. Those who wait until the case presents itself before fitting to try it or treat it gather only withered leaves and faded flowers for their victor wreaths. That the daily practice of a doctor does not bring him into contact with the insane is no reason why he should not possess at least the book learning of the subject. He may not be called once a year to treat a case of poisoning, yet he should know the various poisons, their peculiar effects and symptoms, and be able to make the distinctions which science enables those to make who have tarried long enough at her fountains. It is to the advantage of a physician, if he ever earned a dollar in this field, to be accomplished in legal medicine. It is a part of his profession and one who succeeds in a profession is one who explores with the lamp of industry its very branch and recess, and who comes to the discharge of its every duty with a mind capable of not alone comprehending, but of applying correctly its principles.

Necessity brought into requisition the medical expert. Frequently the courts would encounter questions of fact which all the knowledge of lawyers and judges and the common sense of juries could not solve satisfactorily. If those questions related to the human mind or body who better could assist in making light that which was dark and mysterious than the learned physician? So he was added as a spoke in the wheel of justice, or a wheel in the machinery of the law.

Mental alienation is a broad and inviting study. Men have spent their lives and become famous in the field and yet did not conquer half its difficulties nor solve half its mysteries. But this should not discourage the physician from devoting a little time, stolen from the daily grind, to its study. Like the bread cast upon the waters it will come back to bless him. Any doctor may be subpoenaed at any time to testify as a medical expert. Doctors as well as lawyers, and perhaps members of other professions, are judged by a standard fixed by a misconception and this misconception is deeply rooted in the common mind. In general understanding both law and medicine are supposed to be made up of certain fixed and unvarying rules, which, when applied, will solve every question and dispute and determine every diagnosis and the treatment. It is further believed that every doctor and lawyer should be able at any moment to pick up one of these rules, as a carpenter would his measure, and settle the question or tell the disease at sight. We know that these are mistaken ideas. I am not competent to speak of medicine, but as to law, it is not so much to know the law as to know where to find it. But in general estimation a doctor, when put on the stand, is expected to shed broad light upon any subject connected with medicine, and if he is not able to, or at least appear to, not only his professional dignity, but his professional standing and usefulness suffers.

Physicians are brought into court to testify as to the identity and ages of persons. The Tichborne case, as to the identity of the claimant, is one of the most interesting judicial records of the world. They are asked to give opinions as to probable survivorship where persons have died at or near the same time and the course of inheritance depends upon the order of death. They are required to testify as to the age of puberty and to determine the most delicate and important questions in cases involving capacity to commit rape and in paternity proceedings. In cases of criminal abortion, multitation, homicide, infanticide, defloration, wounds, impotency, sterility, pregnancy and in scores of other cases and upon scores of other questions the physician is a valuable, an indispensable auxiliary in legal proceedings, civil and criminal.

A learned legal authority says: "The jury are to be enlightened in every possible way, and as they are not selected with a view to their qualifications to try the particular issues before them, but as men possessing the ordinary qualifications of mankind, when questions arise to be determined by them, involving an acquaintance with facts not coming within the ordinary range of human experience, skilled witnesses are permitted to enlighten them. The true rule is that when the subject to be investigated so far partakes of the nature of a science or trade as to require a previous course of study or habit in order to obtain a knowledge of it, opinions of experts are admissable."

In legal controversies, turning upon or involving the condition of mind as to soundness or unsoundness, the most important as well as the most difficult questions are largely determined by medical evidence. The physician is able, as no one else can, to physically and mentally measure the man. A man may not be able to manage his business affairs and still be responsible for crime. In criminal proceedings the supreme test is the ability to distinguish between right and wrong. This would seem a very simple and easy rule but in its application to actual cases it calls into requisition all the acuteness and learning of both professions and in spite of all their acuteness and learning many an insane person has been executed for crime and many an offender has escaped just punishment upon the mistaken finding that he was insane. And it is no reflection upon law or medicine that this should be so. The most difficult problem with which courts and lawyers and doctors have to contend is that of real or alleged mental aberration in criminal and especially in Capital cases. Many cases present the defense of insane impulse, the person charged being concededly sane immediately before and immediately after the commission of the act. Such was the shooting of Key by Sickles. Sickles was a Congressman and eminent in public life. Key had done him a great wrong. Upon sight of Key and under the im-

pulse of his wrought up feelings the latter was shot dead in one of the public parks of the National Capital. The defense was that his condition of mind at the moment rendered him incapable of controlling the natural impulse to destroy the destroyer of his home. He was acquitted.

The Mary Harris case tried in Washington during the war was a celebrated case and presented clearly the difficulty which medical experts encounter, and, as well, the duty which they must discharge when a life, especially that of a woman, is at stake. The defendant shot a man to death in the treasury department and her defense was insane impulse. She was defended by most able counsel, among them being Senator Vorhees, then a member of Congress. Eminent medical experts testified on both sides. While she was imprisoned Mrs. Lincoln sent her a bouquet of rare flowers and after many years—but within a year or two last past—she was married to her senior counsel. She was acquitted upon the ground that at the moment of the shooting she was incapable of controlling the impulse under which she destroyed a human life.

A further illustration of this kind of evidence is in cases where although the person charged with an offense is insane it is claimed that either he still retained enough mental power to distinguish between right and wrong or that the act was committed during a lucid interval. The question of responsibility may turn upon a brief interval of time.

Again, in civil cases, some of the most important, delicate and interesting questions, as to mental capacity, have arisen in contents of wills. The mental capacity is frequently complicated with undue or illegal influence and thus compounded makes contests in which fame may be achieved by medical experts.

And still again, difficult questions as to mental capacity arise in proceedings to appoint guardians for persons alleged to be imbecile or insane. I believe medical authorities define an imbecile to be one idiotic, but not born such. An old legal authority provided this test: "A person who has understanding enough to measure a yard of cloth, number twenty correctly or tell the days of the week is not an idiot in the eyes of the law." But in these days of asylums for the feeble minded, institutions in which idiots are taught to do these things and many more, this test of responsibility or capacity would hardly be received as conclusive.

And in all such cases judges calling to their aid medical gentlemen as expert witnesses must separate the tangles.

Cases in criminal poisoning usually have about them the interest of mystery. In a great majority of these cases the evidence to convict or exculpate must come from the medical profession. The most important witness is usually the attending physician and very much depends on how carefully he has noted and how clearly he can describe the symptoms. The chemist can analyze in search of the poison but only the doctor can preserve the symptoms and appearance.

Doctors are frequently called into court, not simply as witnesses to give an opinion but to testify to technical facts the knowledge of which was acquired by them in the confidential capacity of attending or family physician and in aid of or against persons thus employing them. Under the common law the communications made by patients to their physician were not privileged. Most of the States by statute have provided that such communications shall not be given in evidence if the patient object. The privilege is that of the patient and not of the doctor. But in order to exclude them they must be made about something necessary to be disclosed in order to prescribe the remedy or treatment.

I have reserved for the last a brief reference to the law regarding the right of medical experts to receive or demand extra compensation before testifying. Of course if they are subpoenaed to testify to facts which came under their personal observation their righte are not different from those of any other witness. They are bound to obey the summons of the court and if they neglect to do so they would be subject to punishment as for contempt of court. I think as a general proposition and in the first instance physicians are obliged to appear in court when subpoenaed and paid or offered the ordinary fee and that their right to raise the question does not present itself until they are propounded questions calling for opinion or scientific evidence and then the question arises hereinafter discussed. This may seem to fall short of what an expert ought to be able to demand before going to court but the reason of the proposition lies in the difficulty of determining beforehand the kind of evidence to be elicited. If it was conceded at the outset that opinion or expert evidence alone was to be sought, then I think the right to demand extra compensation would exist before answering the subpoena or at least before going upon the stand.

Some of the States by statutary provision have settled this question.

North Carolina as follows: "Experts when compelled to attend and testify shall be allowed such compensation and mileage as the Court may, in its discretion, order."

Iowa as follows: "Witnesses called to testify only to an opinion founded on special study or experience in any branch of science or make scientific or professional examination, and state the result thereof, shall receive additional compensation, to be fixed by the Court, with reference to the value of time employed and the degree of learning or skill required."

Rhode Island as follows: "In addition to the fees above provided, witnesses summoned and testifying as experts in behalf of the State before any Justice of the Supreme Court, Trial Justice or Coroner, may be allowed and paid such sum as such Justice of the Supreme Court, Trial Justice, or Coroner may deem just and reasonable; provided, that the allowance so made by any trial Justice or Coroner shall be subject to the approval of a Justice of the Supreme Court."

Indiana has settled the matter the other way and as

follows: "A witness who is an expert in any art, science, trade, profession or mystery may be compelled to appear and testify to an opinion as such expert, in relation to any matter whenever such opinion is material evidence relevant to any issue on trial before the Court or Jury, without payment or tender of compensation other than the per diem and mileage allowed by law to witnesses, under the same rules and regulations by which he can be made to appear and testify to his knowledge of facts to the same issue."

In States where no express provision has been enacted the question is still an open one, unless some court of authority has fixed a rule. Some of them have as hereinafter stated. No expert is required, whatever the rule is, to make examinations and prepare to testify in behalf of a party to a suit without such compensation as may be agreed upon. He might be required to do so if appointed by a Court as a commission or committee in cases where the Court had authority to make such appointment. He cannot be compelled to attend the progress of a trial in order to enable him or qualify him to give opinions as to questions involved.

The reasons are all in favor of extra compensation. Authoritative writers on medical jurisprudence have set them forth as follows: I quote from Ordonaux: "It is evident that the skill and professional experience of a man are so far his individual capital and property that he cannot be compelled to bestow it gratuitously upon any party. Neither the public, any more than a private person, have a right to extort services from him, in the line of his profession, without adequate compensation. On the witness stand, precisely as in his office, his opinion can be given or withheld at pleasure; for a skilled witness cannot be compelled to give an opinion, nor committed for contempt if he refuse to do so."

I quote next from Beck's Medical Jurisprudence: "If the duties on which I have enlarged are important to the community, in promoting the proper administration of justice, ought not the individuals engaged in them to receive adequate compensation? I advert to this not only because it is just in principle, but because it would remove all imputation of volunteering in criminal cases. No one can refuse being a witness when legally summoned; everyone, I presume, may decline the dissection of a dead body, or the chemical examination of a suspected fluid, and yet there is not, I believe, an individual attending on any of our courts who is not paid for his time and services, with the exception of such as are engaged in these investigations."

These authors are physicians and it may be reasonable to subtract a little from their enthusiasm, but not withstanding, they state cogently reasons which ought to determine the rule. A good deal of learning has been expended in discussing whether the rule should rest upon the theory that the time of an expert was more valuable than that of an ordinary witness or upon the theory that his opinions, skill and experience are his property and of which he cannot be deprived without adequate compensation. The latter theory has prevailed universally where extra compensation has been authorized and it is the only tenable basis.

In a Massachusetts Federal Court in a criminal case, the District Attorney moved to attach a witness as for contempt, who had failed to appear when subpoenaed as an interpreter. It is not an exact parallel but the reason is the same. The Court declined to issue the writ and in the refusal is reported as saying: "A similar question has heretofore arisen and I have declined to issue process to assist in such cases. When a person has knowledge of any fact pertinent to the issue to be tried, he may be compelled to attend as a witness. * * * But to compel a person to attend because he is accomplished in a particular science, art or profession would subject the same individual to be called upon in every cause in which any question in his department of knowledge is to be solved. Thus, the most eminent physician might be compelled, merely for the ordinary witness fee, to attend from the remotest part of the district, and give his opinion in every trial in which a medical question should arise. This is so unreasonable that nothing but necessity would justify it."

One of the Federal Courts of this State (Arkansas) has decided the question in faver of the right to demand extra compensation before testifying to matters of expert knowledge. The Court said: "The skill and professional experience of a man are so far his individual capital and property that he cannot be compelled to bestow them gratuitously upon any party."

The Court of Appeals of Texas held the opposite rule upon the peculiar facts of the case. A physician was placed upon the witness stand and testified without objection to the facts which had come under his personal observation, when it came to his opinion as to the cause of the man's death he declined to answer without other compensation than the ordinary witness fee. The Trial Court sustained the physician but the Court of Appeals held that inasmuch as he had already made the post-mortem examination he should give his opinion.

The Supreme Court of Indiana, before the passage of the statute denying the right to extra compensation, decided the question the other way and in the opinion used the following language: "When a physician testifies as an expert giving his opinion he is performing a strictly professional service. So does the lawyer, when he performs any services in a case. The position of a medical witness testifying as an expert is much more like that of a lawyer than that of an ordinary witness, testifying to facts. The purpose of his service is not to prove facts in the case, but to aid the court or jury in arriving at a proper conclusion from facts otherwise proved."

The English rule is well settled in favor of extra compensation, Justice Maule in one case saying: "There is a distinction between the case of a man who sees a fact, and is called to prove it in court of law, and a man who is selected by a party to give his opinion on a matter on which he is peculiarly conversant from the nature of his employment in life. The former is bound

as a matter of public duty to speak to a fact which appears to have fallen within his own knowledge. The latter is under no such obligation. There is no such necessity for his evidence and the party who selects him must pay him."

Alabama has denied the right; other states may have done so, but the cases have not come under my observation. Upon the reason of the thing one wonders why courts have divided upon the question. An expert is one who by study and practice, skill and experience has acquired peculiar knowledge of a certain subject or matter. He arrives at his knowledge by a process akin to that through which property is accumulated and it is as valuable as property. The latter receives the protection of constitutional provision, and is guarded as sacredly as life and liberty. Yet knowledge, by these adverse decisions, is treated as commons upon which judicial stock may graze at pleasure.

The evidence of an expert should be compensated for commensurately with its value. In criminal cases the amount should be fixed by the Court, in civil by agreement between the expert and the party calling him.

The medical expert should never have his opinions for sale. Fidelity to his profession and its great principles should be his pole star. Medicine is the greatest of the worldly professions. It deals with life and health, the dearest possessions of this sphere. For years, if not in substantial honors, yet in general esti mation, it has been honored above all. Its members have ornamented the most exalted stations, and in its daily work, without herald or drum beat, it modestly performs its great task in life. I am highly honored by being admitted, for the brief time, within the precincts of your order.

Nine Cases of Contusion and Sprain of the Back, with Special Reference to the Early Treatment of These Injuries.—In reviewing the nine cases reported, which occurred in the service of Henry R. Wharton, M.D., of Philadelphia, at the Presbyterian Hospital in 1892 (*Med. and Surg. Rep.*), he concludes that rest in bed is of the first importance. In addition to the foregoing, strapping the back firmly with strips of adhesive plaster two and a half inches wide is very effective in relieving the pain and general discomfort. This was done in every case. Of the methods usually recommended, warmth, friction, stimulating liniments, anodynes, acupuncture, galvanism, and massage, the latter is most useful.

The most common seat of injury is the lumbo-dorsal region. Three of the cases reported passed bloody urine for a few days, indicating severe contusion of the kidney.

In all the cases of contusion of the back, if the physician institutes careful treatment at first, he may prevent the "traumatic neuroses" which give rise to so many troublesome litigation suits.—*International Medical Magazine.*

EDITORIALS

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Oust the Reporters.

With an incoming new administration elected by a political party it is customary to raise the familiar cry: Turn the rascals out! Meaning thereby in a hyperbolical manner the incumbents of office and the party in power. There is an element of power in the St. Louis Medical Society, not recognized officially, but existing by the force of usage, which for the last few years, but especially during the last administration, has held a remarkable sway for evil unprecedented in the history of the Society. With a slight modification of the political war cry we will say to the members of the Society: Turn out the reporters.

Never before in the history of the Society was there a more urgent necessity of having an uncompromising man at its rudder in order to pilot the Society safely through the dangers by which it is surrounded and which have threatened to undermine its usefulness, honor and dignity for several years. Above all, the sensational, ridiculous and highly colored accounts of the proceedings furnished to the public by the newspaper reporters, who have been particularly eager to inform the public of any disagreements between individual members of the Society, have caused the lowering of the Society in the estimation of the laity, so that it has become the laughing stock of the intelligent portion

of the St. Louis public. The next president of the Society should be a man who pledges himself to help the Society in its efforts to keep out the reporters who have been the stumbling block to the advancement of the best interests of the Society for many years by giving credit where it does not belong and ridiculing real merit. They have given to the public an erroneous and misleading impression as to the merits or demerits of some of its members and their admission to the floor of the Society is a crying injustice to the quiet and unobtrusive element of scientific workers, who do not wish to have their merits adjudged by the medical horizon of the representatives of the reportorial guild, which has been the cause of the floor of the Society being at times turned into a circus.

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The eligible candidate for the presidential honor should be a man with sufficient determination to counteract the machinations and cunning of cliques who have at heart only the furtherance of their own interests without any regard for the welfare of the Society as a whole. If left alone they would soon succeed in running completely into the ground the dignity, respect and scientific importance of the Society and exposing it to the ridicule of the profession as well as the public.

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The next president should be a man who is identified with the revision of the by-laws of the Society and is an adherent to the four-fifths rule. The indications are, that only such a man will have a show this year to be elected president of the Society.

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Everybody who becomes a member of the St. Louis Medical Society thereby pledges himself to uphold the Code and it is therefore the duty of every member, if for no other reason, but this pledge alone, to respect it and that the members who do this are able to elect their candidate for the presidency of the Society, the annual election will prove. We predict a year of prosperity for the Society, but—oust the reporters.

Is the Typhoid Bacillus Capable of Producing Abscesses

Judging from the results of experiments upon animals the typhoid bacilli are ordinarily not pyogenic bacteria and as heretofore they have only rarely been found in the abscesses of typhoid fever these abscesses were supposed to be always due to a secondary infection, either the absorption of septic material from the bowel, or to pyogenic micro-organisms for the development of which the typhoid fever was supposed to create a favorable soil. The occurrence of metastatic abscesses in consequence of all exhausting diseases in which no pyogenic bacteria were found was explained by the fact that causes of irritation, micro organisms or their chemical products, which under ordinary circumstances are not capable of causing suppuration may, when the soil is prepared, as is the case in an exhausting disease, become pyogenic agencies. It was supposed that typhoid bacilli were not capable of producing suppuration under any circumstances. That this supposition is probably erroneous has recently been proven by a case reported by Flexner at the Johns Hopkins Medical Society, published in *Johns Hopkins Medical Bulletin*, in which no other micro-organisms were found in most of the abscesses than a large number of typhoid bacilli. These organisms were cultivated by Osler from the mesenteric glands, spleen, liver, bile, kidneys, lungs and bone marrow and were also found in great numbers in the heart's blood.

Dr. Welch considered the case a conclusive proof that the typhoid bacillus is capable of producing genuine abscesses and regards as the best example for the long viability of the typhoid bacillus those cases of periostitis and osteomyelitis which occur many months and even years after typhoid fever. Welch admits, however, that the cases of post-typhoid osteomyelitis in which genuine pus is present, are usually mixed infections and that most abscesses in which the typhoid bacillus is found are mixed cases, but emphasizes that there are cases of abscesses due to the typhoid bacillus exclusively.

According to the general literature upon the subject, we should consider the occurrence of an abscess in consequence of the typhoid bacillus an exceedingly rare one, and only in extraordinary cases like the above one, where the blood and nearly all the organs are full of typhoid bacilli, would a suppuration occur as a consequence of this micro-organism. The precaution taken by Osler in confirming the fact that only typhoid bacilli were found in the abscesses excludes the possibility of an error. The occurrence of osteomyelitis and periostitis occurring many years after an attack of typhoid fever is, according to most authorities, due to pyogenic organisms that have been lying dormant in the tissues until some agent, favorable to their development, has caused them to multiply and produce their chemical products and thereby bring about the suppurative process. A large series of painstaking experiments have been conducted by Rinne, Grawitz, DeBarry and others with the object of explaining the apparently spontaneous cases of osteomyelitis. If the supposition of Welch is true that they are caused by retained typhoid bacilli the chaos with regard to the knowledge of the cause of osteomyelitis following many years after an attack of typhoid fever would be cleared up, but so far we have to accept his opinion as a hypothesis which finds no support in experimental research.

Newspaper Medicine.

The following interesting report of a case of diphtheria and its deductions we clip from the *Globe-Democrat* of Dec. 20, 1894:

THE MARKS REMEDY—DR. LEWIS TELLS OF A CURE WITH THE LATEST DIPHTHERIA SPECIFIC.

"Dr. Marks' new remedy for diphtheria has wrought

patient to whom the Marks remedy was administered is a young lady 18 years old, being treated by Dr. Charles Lewis, of 1402 Monroe street. Dr. Lewis was called into the case last Saturday, and upon diagnosis discovered that the young lady had been suffering with diphtheria for three or four days. The attack was a severe one. He applied remedies usual in such cases. But Sunday morning his patient was no better. Dr. Lewis had full confidence in Dr. Marks' new discovery, and decided to use it. The patient's temperature was 103°. She was in an anemic condition and very weak. The false membrane had completely covered the tonsils and fauces of the throat. The throat itself was badly swollen and the patient swallowed with much difficulty. Dr. Lewis swabbed the throat and injected the medicine into the body hypodermically. Sunday evening the tem perature had reduced to 102°. Monday morning the membrane had ceased to spread and the swelling in the throat was reduced and the temperature was down to 101°. Tuesday Dr. Lewis applied the treatment, morning and evening, as before. The temperature seemed to decrease with each dose. So rapidly was the temperature lowered, the false membrane destroyed and the swelling in the throat reduced that yesterday at noon, not quite four full days since the first application of the medicine, the young lady was declared not only out of danger but practically well. Her temperature registered but 99°, just one-half degree higher than normal. There was no vestige of the false membrane nor swelling. The germs of the disease had been killed. All necessary to the restoration of complete health is the recuperation from the shock to the system.

"Dr. Lewis regards the cure as a very remarkable one in every particular. 'If the new remedy discovered by Dr. Marks proves as successful and efficient in the future as it has in this case,' said Dr. Lewis yesterday, 'it will supersede the serum or antitoxine as a treatment. If the case I have just cured is a criterion for the future, it is a better and safer medicine than the serum. The blood serum has its dangers and is very difficult to manufacture. This new medicine consists of two chemicals which, united, have the same power as the antitoxine, Where I made injections into the flesh of my patient there is not the slightest inconvenience resulting therefrom. No sores or pustules were formed, as I have read is the result in several cases where the blood serum has been administered. It is probable, too, from what I have observed, that Dr. Marks' remedy will cure at nearly any stage of the disease. It will not be necessary, therefore, to inoculate during the first forty-eight hours, when only a sore throat or other symptoms are apparent.'

"Dr. Lewis considers the rapid and remarkable recovery of the young lady as a complete test of the efficiency of the medicine. 'It is something wonderful,' he said, 'I am delighted with it. The case was as bad as any I have ever seen, yet in four days there was a complete cure. In the ordinary run of diphtheria nothing regular, and we lose from 50 to 60 per cent of diphtheritic patients. It is first supposed to be a local trouble, and if the germ can be destroyed before it affects the body or becomes systematic, a cure is effected at once. But this new remedy, from present indications, will probably be equally effective in one case as the other."

This is the remedy of the Vice-President of the St. Louis Medical Society. Comments are unnecessary.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening Nov. 24, 1894, the Vice-President, HEINE MARKS, M.D., in the chair.

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DR. L. H. LAIDLEY presented a specimen of "Sub-peritoneal Fibroid of the Uterus. The patient is 33 years of age, a paralytic, had had no children, and suffered no menstrual inconvenience, except an increased flow of longer duration than usual. This occurred only once, a short time before examination of the pelvic viscera led to the detection of the tumor. The abdominal walls were very much relaxed and the fibroid could be very readily palpated. It was attached to the fundus of the uterus by a pedicle as thick as the index finger when compressed by the ligature, and about as long. In consequence of this attachment it could be very readily moved to all parts of the abdominal cavity. The tumor rested on the brim of the pelvis on both sides, thereby drawing the uterus up and somewhat out of its normal axis.

The operation was performed three days ago, and the patient is in excellent condition, everything pointing to a favorable result.

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DR. GEORGE F. HULBERT presented two specimens. The first from a case of "Extra-uterine Gestation," removed by a celiotomy on November 7. Patient was of robust physique and had had an abortion in the early part of the year, which was followed by metrorrhagia lasting until June. She evidently became pregnant in September, between the fifth and ninth, but had a rather free menstrual flow on October 5. On October 9, during the continuance of the menstrual flow, while engaged in shopping, she was suddenly seized with a sharp pain in the left side, accompanied by some nausea and a tendency to faint. She did not lose conciousness, however, but rallied sufficiently to get home and go to bed. Although the pain was present more or less all the time, she was able to be up and about and to fulfil her social

engagements. The progress of the case was without incident; temperature and pulse normal; all the functions were natural and there was no evidence of infection.

An examination was made on October 5, and a mass detected behind the uterus. The diagnosis of extrauterine pregnancy was not made at first, and although nothing had been detected by previous examinations, speaker thought there might be an inflammatory serous cyst forming in Douglas' cul-de-sac, which, being shut off by the agglutination of the intestines and omentum above, gradually enlarged, dissected its way down, separating the vagina and rectum, finally shutting off the bowel, thus producing a ribbon shaped stool.

As soon as the abdomen was opened, the existing condition was recognized immediately. The cyst was formed by an agglutination of the omentum and intestines in Douglas' cul de sac, the condition demonstrating one of Nature's methods of treating these conditions, by closing in the site of rupture. The mass was incised, a pint or more of clotted blood removed, and the sac ligated and cut away. The other ovary was also removed, it being in a beginning cystic condition.

The patient made an uninterrupted recovery in every way.

The second specimen was an "Appendix," removed because it was a constant source of pain and annoyance. The pain was of two years standing, and was so persistent that the patient was incapacitated from her ordinary duties—those of a house servant. Saline cathartics and digestive ferments usually afford temporary relief in cases of appendicitis, but in this patient they were absolutely barren of results. Another prominent feature of the case was the decided definition of MacBurney's point. At no other point was there any tenderness, but pressure here immediately caused flinching of the patient.

When removed the appendix seemed perfectly normal, the only modification being a slight hyperemia and some edema of the tip. There was no evidence of any difficulty outside of the appendix, but a grape seed was found lodged in the very tip. It was probably pressure on this foreign body which produced the pain elicited on examination.

Recovery was complete and uneventful.

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Dr. B. Merrill Ricketts, of Cincinnati, was called upon to address the society. He spoke briefly in favor of two operative procedures, which are at present being more generally performed for troubles formerly supposed to be entirely in the domain of medicine. The one is "Castration for Hypertrophied Prostate," and the other "Trephining for Acute Cerebral Meningitis."

Among other things, he said.—I believe I can speak to you on two or three new things that are just now coming before us as surgeons, and which interest not only the surgeon, but the general practitioner and, I feel quite sure, our patients many times. At the present time we are,it seems, undergoing a revolution in the treatment of several diseases—diseases that have been previously classed as medical cases—diseases that have been treated by medicine alone—surgery having failed to meet the requirements. The physicians and surgeons of St. Louis do a high class of work, but I will throw out the suggestion that if they have not been doing castration for hypertrophied prostate, I should most assuredly advise them to try it. It is in itself a simple operation. While I am quite sure that some surgeons would object most strenuously to the operation, I feel that the operation is justifiable, especially in the old—the very old. Just why man should be afflicted, and why Nature should make a change in a man in declining years, is something I cannot understand. It seems, at times, as if it might be due to some irregularity in living, but we are not quite sure of that. That there is a relation between the testes and prostate, I feel quite sure; almost as sure as that there is a relationship existing between the pelvic sympathetic and the uterus; or, in other words, the development of fibroids in the uterus. Just what that relation existing between the testes and prostate is, has not yet been determined. The prostate is fibrous in structure and undergoes hypertrophy. I believe that tuberculosis is a prominent feature, and diseases of the rectum have more or less influence.

Continuing, the speaker referred briefly to the records of the eight operations done up to the present time, published by Monsell Moulon, in the *British Medical Journal* of November 2. In all these cases the prostate underwent atrophy. We all know that eunuchs have no prostates, and that the prostates of lower animals atrophy if the testes are removed while the animal is young. The important point, however, is, whether the prostates of the old men will atrophy if castration is done. This has occurred in all cases so far reported, although it has been asserted in a discussion a few days ago, that the prostate of a castrated patient was just as large two years after operation. This, the speaker maintained, it is impossible to determine by a digital examination. We may determine the size of the base approximately, but not the perpendicular. Of course, the operation should be done only by the consent of the patient, and only after he is made cognizant of the results or particulars of everything connected with it.

The good effects of the operation was beautifully shown in a case operated upon by the speaker four weeks ago, the patient having undergone a wonderful revolution. He is 74 years old, is a man of good habits, and had had the trouble for some time. He had become emaciated, nervous and irritable, and said he would rather die than continue to suffer. It was impossible to introduce a catheter of any size or curve, he urinated twenty or thirty times in twenty four hours, and could not sleep longer than one hour at a time. The size of the prostate could not be determined by digital examination, the base not being as broad as might be expected, but the bladder was very likely practically filled by it.

Removal of the testes was suggested on account of the unsatisfactory results and the high rate of mortality following the perineal or supra-pubic operations. Forty-eight hours after the operation the patient could sleep four hours at a time, was more comfortable and could pass a stream of urine. In a week he could sleep eight hours at a time without passing urine or having pain.

The second operation, "Trephining for Acute Cere bral Meningitis," is based on the principle that an abnormal quantity or quality of fluid should be removed wherever found, no matter in what cavity or portion of the body it may be. Acting in accordance with this principle, the speaker recently trephined a child 18 months old, which had simple cerebral meningitis. The operator was not called, however, until the child had been comatose for eight days. At that time the child had not taken nourisment of any kind for eighteen hours, not being able to swallow anything whatever. It had not moved its arms or legs; had given no indigation of sensibility; there was left facial paresis; the pupils were contracted. The right parietal region was trephined with a gouge, without an anesthetic. Five minutes after the arachnoid has been opened the facial paresis had disappeared. The left parietal region was immedi ately trephined as low down as possible in order to in sure good drainage. Two ounces of clear straw colored fluid escaped in the next fifteen minutes. The two oper ations were performed in fifteen minutes and at the end of that time the child could move its arms and legs, cried aloud, could swallow water, and continued to take liquid food for the next 26 hours. After 28 hours dis solution took place. It is reasonable to suppose that this child would have recovered if the operation had been done as soon as pressure symptoms manifested themselves.

The question arises, how, and to what extent can we drain the arachnoid cavity. It is understood that there is an arachnoid cavity, and that this cavity is a continuous one. If this is true, it looks as though we could drain it by one trephine. This is impracticable, how ever, and better drainage is insured by trephining both parietal regions

If there is fluid in the ventricles, it may be drained by tapping them, as the toleration of the brain substance is wonderful. This drainage has been accomplished by Dr. Moyer, of Chicaga, by inserting a canula fitted with a little door or cover which could be opened or closed *ad libitum*. In another instance the ventricles were drained through a tube, into the cellular structure of the scalp, the fluid being removed by re absorption. The idea is certainly unique, and perhaps it may be practicable to do it.

Dr. J. C. Woodbridge, of Youngstown, Ohio, was called upon, and responded by explaining his method of treating typhoid fever. He said among others: "I am not like my friend Dr. Ricketts; it is not a pleasure for me to stand up before medical gentlemen and try to tell what I very imperfectly understand. However, I have sometimes read a paper on typhoid fever, and it invariably gets me into trouble. I do not remember, except in one instance, that I have ever said anything about typhoid fever, that every other member of the profession present did not jump on me, figuratively speaking, with both feet. It is not because I want them to, but because I feel that I owe a duty to my profession,"

Continuing, he said that he was led to his treatment of typhoid fever, after having a death rate of 17 per cent for 16 years, an average duration of illness of 34 days, and occasionally an abortive case. If Nature can protect 99 per cent of those exposed to the infection by drinking poisoned water, and can occasionally abort a case, is it not possible that something exists in the domaine of medicine with the power to abort the disease?

The treatment is based on the supposition that the patient is merely the receptacle, at least in the earlier stages, containing the specific poison. Although he did not expect to succeed in antisepticizing the whole body of his patients and to abort every case of typhoid fever, he had succeeded in reducing the mortality to nothing, and that, too, in a community where he had formerly had a death rate of 17 per cent, and where other physicians, with the old treatment, continued to meet with no better success up to the present day. He had not had a death in 13 years, and had reduced the average period of sickness from several weeks, to ten or twelve days.

It has been claimed that the cases were not true typhoid fever. If that is so, what has become of the typhoid fever patients? The death rate among the cases of his fellow practitioners remains unaltered, and their symptoms are the same as those of the speaker's patients

The treatment is directly in opposition to the teachings of all the scientific world, and abandons the idea that we should guard against diarrhea from the beginning It consists in the administration, every two hours for the first two or three days, of the following:

Podophyllin,	$^1/_{200}$ gr.
Guaiacol carbonate,	$^1/_{16}$ gr.
Calomel,	$^1/_{60}$ gr.
Thymol,	$^1/_{16}$ gr.

Later there is added,

Guaiacol carbonate,	$^3/_{16}$ gr.
Thymol,	$^1/_{10}$ gr.

given as liberally as possible without producing too free catharsis; that is 6 or 8 movements daily. After a few days this is substituted by the following.

Guaiacol carbonate,	4 grs.
Thymol,	2 grs.
Menthol,	½ gr.
Eucalyptol,	5 gtts.

which is contained to the end of the attack.

Speaker said that he does not regard a typhoid fever patient as a sick man, but merely as a receptable holding the specific poison. If this can be destroyed and eliminated he will require nothing else. No opium is re-

quired for rest,the temperature need not be reduced with antipyretics, he may take exercise from the beginning to the end of the attack, and may eat beef stake and roast beef. No intestinal hemorrhage occurs if the patient is seen as early as the eighth or ninth day.

Among the cases recently treated, three occurred in the family of a doctor. The wife was the first treated, and was seen by the speaker after 19 days of treatment by another physician. Her temperature was 104 5°, and her nervous condition very bad. The doctor seemed anxious, but was assured that he was in greater danger in pursuing his daily routine of practice. In a few days the doctor himself became the victim, and had well marked and characteristic symptoms. He was allowed to see his patients in his office during the attack. Following his illness, came that of his sister, who had a more severe attack and was, therefore, confined to bed three or four days. Temperature was 104.5°, bowels tympanitic, area of dullness increased over the spleen, and rose colored spots well marked.

These three cases occurred in a locality where a man died, at the same time, of the disease, from intestinal perforation.

The speaker closed with the following remarks: "I am well aware that this kind of prognosis is not well received by gentlemen who have not followed the treat ment as I have done,and it is such statement that provoke criticisms. I should not be displeased if you criticise me. I am free to confess that 25 years ago, I should not have placed confidence in the statements of the most learned man in the profession, if they had been the same that I now make about typhoid fever. All I have to say, is, try the plan for yourselves."

ABSTRACTS

MEDICINE.

A Case of Hematophilia, with Death from Hemorrhage Following the Extraction of a Tooth.—The *Annals of Surgery* contains the following account of a case which came under the observation of H. Elliott Bates, of Poughkeepsie: The patient was 25 years of age, and had been delicate from childhood. He had suffered from several attacks of rheumatism, painful joints and digestive disturbances. When a child, a trifling accident had resulted in prolonged and obstinate hemorrhage. Twice the extraction of a tooth had nearly cost him his life, on account of the persistent bleeding which had been very difficult to check. After enduring a severe toothache for several days the patient applied to a dentist for relief. Nitrous oxide gas was given, and the tooth, the second right lower molar, was extracted. Hemorrhage followed, but diminished steadily after the cavity had been packed with cotton. This was at half-past five in the afternoon. The patient went home; went to bed, and, placing a small foot-tub at the side of the bed, repeatedly emptied his mouth as fast as it filled up which blood. Thus he passed the night. In the morning his condition was such that the family resolved to send for a physician.

When seen by the writer the patient was in a state of collapse from acute anemia. His temperature was 69 8° F; the pulse 150, thready and feeble; respiration 24, sighing and stertorous. There was great restlessness and mental anxiety; the face and lips were bloodless; there were cold perspiration, tinnitus aurium and dimmed vision. A stream of arterial blood trickled from the mouth. Vomiting of bloody material occurred frequently, followed by attacks of retching which terminated in syncope. Examination revealed a cavity in the lower jaw, nearly an inch in depth, the tissues of the gum badly lacerated, and the blood welling up with every beat of the heart. The source of the hemorrhage was evidently the inferior dental branch of the internal maxillary artery. A hypodermic injection of whisky with a fiftieth of a grain of strychnine sulphate was given. The cavity was cleared of some masses of cotton and packed firmly with a long strip of sublimated gauze wrung out in Monsel's solution. Thereupon the bleeding ceased, with the exception of a steady ooze from the tissues of the gum, which resisted all attempts to check it.

The restlessness, retching, feeble pulse, and irregular respiration improved greatly after an injection of morphine with atropine. Stimulation in the form of whisky and strychnine was administered when indicated, and the patient rallied slowly and imperfectly. The stomach and rectum were intolerant, and nourishment was time and again rejected. Transfusion was not feasible, but the writer determined to make use of a substitute for it which had given excellent results in a similar case. This consisted of throwing under the skin with the hypodermic syringe, at frequent intervals, several drachms of the standard saline solution. An immediate improvement followed. The pulse became fuller and more regular, and at nine o'clock in the evening the patient was resting easily. The pulse was 100; temperature, 100.5° F.; respiration, 18. The surface of the body was warm; the patient was conscious and spoke of feeling better. At 3.30 A.M the patient sank suddenly, the bleeding from the gum increased, but prompt stimulation resulted in prompt reaction.

Stimulants, subcutaneous injections of saline solution, and nourishment, together with constant watchfulness, carried the patient along until 3.30 P M, when Dr. Powell saw the case in consultation. His prognosis was unfavorable, and he agreed with the treatment given. He also informed the writer that the patient had been under his care for several months for anemia and general debility, without manifesting much improvement after careful treatment. Between 5 and 6 P.M. the radial pulse could not be felt at the wrist, and the patient

seemed to be *in articulo mortis*. Nitroglycerin, warmth, whisky and strychnine were then used with a happy result.

Dr. Bates remained with the patient from 3.30 P.M. until 4 A.M., when he left the case in the hands of Dr. Powell until 10 A.M. The patient had for several hours retained nourishment; the attacks of retching had almost entirely ceased; the pulse was apparently stronger. At 9 P.M. the patient began to sink rapidly, and finally expired at 9.30 P.M., seventy-six hours after the extraction of the tooth.

The family history shows well-marked phthisical taint upon the maternal side, while the paternal is markedly neurotic. No history of other cases of hemorrhage in either family could be obtained. The patient was the only child. He had his first hemorrhage when a young boy, and those which followed were all of traumatic origin. The quantity of blood lost was enormous.

The writer has had two similar cases, neither of them fatal, in which bleeding, profuse and hard to check, had followed extraction of a molar tooth in one case, and the snipping of the frenum of the penis in the other. —N. Y. *Med. Jour.*

The Signs of Heart Failure in Fevers.—M. Huchard has made an important statement to the Societe Medicale des Hopitaux regarding the signs of heart failure, which, he thinks, should not be limited exclusively to the dertermination of the weakening or the disappearance of the first sound. There are, besides this weakening, two other symptoms which he has observed; these he has named the embryocardiac and the bradydiastoliac, or prolongation of the cardiac diastole (*The Sanitarian*). This last symptom was studied some time previously by M. Huchard as a new prognostic symptom in diseases of the heart. He insists upon these facts, and advances proofs to support their correctness, and to show that there are often great errors committed in the diagnosis of acute myocarditis in fevers, and especially in typhoid fever. In this disease the autopsies he has made have proven to him satisfactorily that often, in very grave symptoms of heart trouble, there were hardly any appreciable lesions of the muscular constituents of the heart and reciprocally. On the other hand, there may often appear in cardiac sclerosis considerable myocardiac lesions, and that even while life may last for a great length of time. In emphasizing these conditions, the results of his personal observations and of the previous observations of Bernheim, of Nancy, in 1882, he has shown that many of the symptoms attributed to myocarditis of typhoid fever must be referred to the effect of functional disturbance, or to lesions of the cardiac nervous system. In all these cases it is certain that the symptoms of myocarditis of infectious conditions, admitted by the greater number of authors, do not exactly reproduce those which he has studied since 1870, with Desnos, in cases of variola. This latter disease may produce myocarditis; typhoid fever causes myocarditis with cardiac nervous troubles, which exert a preponderating influence, and the grippe, which resembles typhoid in this respect, as determining myocarditis, but causes other disturbances of cardiac innervation which he studied four years ago, long before Sampson, of London, who has made a report on the subject to the Medical Society of that city. These researches and these considerations have a great practical importance; they show clearly that the poison of typhoid acts on the heart like digitalis; this agent should not be employed indiscriminately in the treatment of a case of typhoid fever complicated with cardiac symptoms. Injections of caffeine, of ergotine, and even cold baths, should be employed in preference.

M. Hayem described, in 1886, symptomatic myolitis, after having examined the hearts of a great number of patients who had died from varioloid and from typhoid fever. He attributed the alterations of the muscles to changes in the blood and in the blood-vessels. Myocarditis is much more marked in typhoid fever than in variola, which is contrary to the statement of M. Huchard. Sometimes even a vitreous degeneration of the muscular fibers is found in typhoid, a condition which does not exist in variola. It is difficult to attribute death to alterations of the muscular fibers, for it seems due rather to a toxemic condition, the effects of which are directed as much to the vessels as to the muscles and the nerves of the heart and other organs. M. Siredey has also found that myocarditis was more frequent in typhoid fever than in variola. In typhoid, the changes in the heart are often limited to the arteries. M. Huchard has, on the contrary, always observed that the fibers in myocarditis were much more deeply changed in variola than in typhoid. The following consideration goes to prove that in typhoid the nervous element should be added to the myelitic. In proportion as sudden deaths are relatively frequent in the cardiac complications of typhoid fever, they are rare in variola. If the cause of death is of equal force in the two affections, why are the results so different?—*Med. Record.*

Milk Diet and Micro-Organisms in the Alimentary Tract.—In the *Dietetic Gazette* are given the results of some recently published work by MM. Gilbert and Dominici (Action du regime lacte sur le microbisme du tube digestif, Comptes Rendus de la Societe de Biologie) on the number of bacteria in the alimentary tract after the ingestion of milk. A milk diet exercises a remarkable influence on the number of bacteria present in the feces of man and of animals. A healthy adult man submitted for five days to a diet consisting in part of 2.5 liters of milk daily. The feces after ordinary food contained 67,000 bacteria per milligramme. At the end of two days under this new diet they contained only 14,000 bacteria; at the end of three days, 5,000; after four days, 4,000; after five days, 2,250. The weight of the fecal matter, which ordinarily amounted to 175 gm. per day in this individual, was reduced to 73 gm.; accordingly the number of bacteria

daily excreted by way of the rectum was reduced from 11,725,000,000 to 164,250,000, *i.e.*, the milk diet thus had the effect of reducing the bacteria of the feces to one seventy-first of the normal number.

The above results were obtained after the use of non-sterilized milk. In the case of a patient suffering from ulcer of the stomach, who had been nourished on an exclusive milk diet for twenty days and had received nothing but sterilized milk for ten days, 3,000 bacteria per milligramme were found in the feces. This number is in close agreement with the lowest figure previously recorded. Similar modifications were produced in the feces of the dog by a diet of sterilized milk, the number of bacteria decreasing from 25,000 or 21,000 to 1,000 or or 500. In rabbits, non-sterilized milk caused an increase in the relative number of bacteria and a decrease in the absolute number. Two animals whose feces normally contained thirty-five and forty-eight bacteria per milligramme were fed for twenty days on non sterilized milk—one liter daily—containing 125 to 150 bacteria per milligramme. From thirty-five, the number of bacteria increased to fifty-seven and from forty eight to eighty nine. Before the feeding of milk, the daily quantity of feces was, in the case of the first animal, 175 gm.; in the second, 111 gm.; the total number of bacteria, 6,125,000 and 5,328,000 respectively. Since the milk diet reduced the daily amount of feces to 5 gm., it is evident that the total number of bacteria was diminished to 285,000 and 445,000. Sterilized milk, however, decreased both the relative and the absolute number of bacteria. After being submitted to a diet of non-sterilized milk for twenty days, the two rabbits above referred to were nourished upon sterilized milk. From fifty-seven and eighty nine, respectively, the number of bacteria in the feces fell to seven and ten per milligramme. The total per day thus fell to 35,000 and 50,000, or one one-hundred-and-seventy-fifth and one one-hundred and sixth of the normal number. In the case of man, the dog and the rabbit, the absence of those species of bacteria which liquefy gelatine, and of molds, was noted during milk diet.

Milk diet exercises its peculiar action not only on the feces, but on the entire gastro-intestinal contents, putting the alimentary canal in a condition of partial asepsis. This does not result from any antiseptic power of the milk, since, as is well known, it forms a good nutrient medium for many species of micro-organisms and the coli bacillus readily grows in it. The true explanation is, perhaps, rather to be found in the character of the changes which milk undergoes in the digestive tract. It is readily attacked by the digestive ferments, the products formed are readily absorbed and but a small residue remains, consisting of nuclein. In this connection it is to be remembered that Dr. Vaughan has lately called attention to the germicidal action of the nucleins outside of the body. The failure of bacteria to multiply in the intestinal canal during milk diet may then be due to the lack of nutrient materials suitable for their development, and, further, to the antiseptic action of any of milk as an accessory food, at least, is apparent in certain gastric disorders attended with the growth of micro organisms, in acute or chronic enteritis accompanied by diarrhea, in typhoid fever, dysentery, and a large number of diseases in which the toxic products of intestinal putrefaction are the ultimate causes of the particular symptoms manifested.—*Med. Record.*

A Case of Addison's Disease in a Girl Thirteen Years Old.—Dyson (*Quarterly Medical Journal*) has reported the case of a girl, thirteen years old, who, it is said, was quite well until three months before coming under observation, although for three months previous to the supervention of her illness her mother had noticed the skin growing darker. The illness set in gradually, with complaint of fatigue and depression, headache, tearing and dragging pains on both sides of the body and back and occasional nausea. The weakness was gradually progressive, and to the other symptoms there were added faintness and dyspnea on the slightest exertion, palpitation, increasing nausea and discoloration of the skin. There was a strong family history of tuberculosis. The child was of average height, well developed, somewhat spare, though not emaciated, and somewhat pale and anemic, with discoloration of the skin. She appeared drowsy, languid and depressed. The temperature was normal. On the lips, at the junction of the mucous membrane with the skin, there was a bluish-black line, the better marked on the lower lip. On the mucous membrane of the inner surface of the lips and of the gums were irregular patches of a similar color. There were also small black spots on the edges of the tongue, which was small and pointed. The appetite was poor. Vomiting took place two or three times a day, the vomited matters being fluid, dark and bile colored. Nausea and retching were frequent. The bowels were regular. The abdomen presented a dark-brown line, corresponding to the linea alba and was a little distended. There were some pain and tenderness in the hypochondria, especially on the left. No tumor was detectable. The blood was slightly deficient in coloring matter and contained a slight excess of colorless corpuscles. The heart-sounds were feeble and scarcely perceptible. The pulse varied from 90 to 120 per minute, and was small and feeble. The skin of the body generally was of a yellowish-brown color, the hands, neck and face; the parts naturally pigmented, namely, the areolæ of the breasts, the umbilicus, the axillæ, and the thighs, the seats of pressure, namely, above the knees where the garters were tied, and below the knees (probably from kneeling), and around the ankles where the boot laces were tied; and the linea alba were very deeply pigmented and of a blackish-brown color; the darker parts gradually faded into the lighter-brown parts; in the darker parts were small black specks. The skin was moist and cold. The urine presented no abnormality. Menstruation had not occurred. The memory was defective. There was de-

pression of spirits, and the child was semi-comatose. The reflexes and sensibility were normal. There was a slight lateral curvature of the spine. The symptoms became progressively aggravated, the headaches more severe, the asthenia more marked, and the vomiting more constant and uncontrollable, while the coma increased. Finally, the patient had several convulsive seizures in quick succession, each lasting a few seconds, and during which the eyes and jaws were fixed, the extremities rigid, and consciousness completely lost, the patient afterward relapsing into the semi-comatose condition. At intervals the child had attacks in which she shrieked loudly, looked terrified, and tossed herself about in bed and grasped at anything or anyone near her. These attacks lasted for a few minutes, after which she became extremely exhausted, and relapsed into a comatose condition. They became more and more frequent and lasted longer, until finally death ensued. The treatment consisted of the administration of agents to relieve the nausea and combat the asthenia, and such diet as the stomach would be likely to tolerate. A tincture of suprarenal gland was obtained as soon as possible, but the few doses it was possible to administer afforded no basis for an opinion as to its efficacy.

Upon post-mortem examination the mucous membrane of the stomach and bowels was pigmented, in some parts more than others. Peyer's patches were enlarged, swollen and deeply pigmented. The veins from all the abdominal viscera were dilated and full of fluid blood; the left renal vein was especially large. The mesenteric glands slightly enlarged; one exhibited caseous changes. Irregular patches of pigment were seen on the walls of the vagina. The suprarenal bodies were decidedly enlarged, the left much more so than the right. The left weighed 160 grains, and was two and a half inches long, and three-quarters of an inch in thickness; the right weighed 96 grains. Both were very hard and firm in consistence, and had an irregular, nodular, yellowish-colored surface. On section both presented precisely similar changes; the glands were very hard and fibrous, with here and there cretaceous nodules, some of which were surrounded by softer, more caseous material; both organs were adherent to neighboring structures. The gray, gelatinous substance and the greenish puriform material so frequently seen were absent. Microscopic examination confirmed the existence of fibroid changes.

Treatment of Epilepsy.—Eulenburg recommends a combination of potassium bromide 2 parts, sodium bromide 2 parts, and ammonium bromide 1 part. The mixture should be given in a weak, watery solution. Effervescing water makes the best vehicle. The medicine is more pleasantly taken in this way, and is not so likely to cause bromism. The dose is to be regulated by a careful register of the number, character, intensity, duration and time of occurrence of the fits, as well as by the condition of the patient in the free intervals. The daily dose for adults will probably vary from 1 to 2 drachms of the mixture, which would be equivalent to from half to a full syphon of Erlenmeyer's bromide water. To avoid upsetting the stomach, the medicine should be given about half an hour after a meal. If fits occur during the night, a large dose should be taken in the evening. Otherwise, two large doses should be given in the day time.

The bromides are, under all conditions, to be continued for three years after the last fit. They may have to be suspended during acute febrile diseases, but not during menstruation or pregnancy. When a daily dose sufficient to control the paroxysms has been arrived at, it should be adhered to throughout the period of treatment. When the medicine is to be left off, *i.e.*, from two to three years after the last fit, the full daily dose may be given every third or fourth day, and the intervals between the doses be gradually lengthened. According to Fere, bromide of potassium may be replaced with advantage by bromide of strontium.

Larke doses (4 to 5 drachms) may be given with impunity if the patients be carefully watched. Improvement may follow such large doses when moderate doses produce no marked effects. Konrad Alt measures the daily dose of bromides by the reflex irritability of the palate and back of the pharynx. An amount just sufficient to abolish this reflex should be given. In some cases half a drachm a day will suffice, in others half an ounce will be required. It is only when bromides fail or cannot be tolerated that other remedies should be tried.

In some cases of apparent intolerance, Eulenburg was able to induce tolerance by beginning with small doses of bromides combined with arsenic and iron. Arsenic, according to him, is a useful adjunct to the bromides, but other so-called remedies can have no lasting effect, or their number would not be so great. The value of chloral hydrate in the status epilepticus is well known. Alt finds the less dangerous chloralamide useful. He recommends amylene hydrate in nocturnal fits, in doses of from ½ to 1 drachm. For teeth-grinding in children, 5 to 15 minims of amylene hydrate may be administered in a starch enema. Chloride of barium, bromide of gold, nitrate of silver, biborate of sodium, etc., may be classed with such surgical procedures as circumcision, cauterizing the nasal bones, stretching nerves and trephining. The excision of a neuroma, a painful scar or other real source of peripheral irritation, is as rational as trephining for Jacksonian epilepsy. Eulenburg excludes electricity and hypnotism, because he fails to see the object aimed at by such means. Hydrotherapeutics and other procedures which regulate the diet and mode of life are as useful for epileptics as for other people.

There is no foundation for prescribing a rigid diet. Gowers had a patient who never could take beef without bringing on a fit. But, on the other hand, he has known the exclusion of meat from diet to cause a great increase in the number the fits. Eulenburg does not believe in a specific diet. Excesses of all kinds should

be avoided. The food should be abundant and nutritious. Coffee, tea, spices, and especially alcohol, and even tobacco, are to be prohibited. An outdoor occupation in pure, bracing air is recommended. All causes of excitement should be excluded as far as possible, *e.g.*, the young epileptic should not go to school, but should be educated at home.—*Deut. Med. Zeit.; Yorkshire Quarterly.*

Vertigo Due to Lead Poisoning.—In the *Archives Cliniques de Bordeaux* there is an article on this subject by M. Emile Bitot in which he remarks that among the symptoms due to lead poisoning there is one of which writers have said very little, and that is vertigo. Tanquerel des Planches has not even mentioned it, Weill and Manouvriez speak of it incidentally and Renaut is scarcely more explicit, although in one of his observations the principal characteristics of vertigo due to lead poisoning are clearly indicated. This observation relates to a patient who had had symptoms of lead poisoning and vertigo which are described as follows: "From time to time he felt a weakness in all his limbs, and at the same time there was buzzing in the ears. He saw showers of snow or of fire; he almost completely lost consciousness, and it was necessary for him to lean on something in order to keep from falling. This occurred from two to six times a day. There was no involuntary micturition. Finally the patient experienced a very intense pain in the head, which lasted for a long time." In his other observations M. Renaut generally contented himself with stating that the patient had giddiness or was dazzled.

Having had occasion to observe several cases of vertigo among subjects attacked with lead poisoning, M. Bitot concludes that vertigo manifests itself nearly always in the following manner: In the beginning various troubles break out, such as cephalea, heaviness of the head, and temporary burning at the side of the face. Immediately after there occur visual or auditory disorders, sometimes both. In particular, there are mist, darkness, bilateral movements of the eyeballs, and fluttering of the eyelids. There are buzzing and ringing in the ears accompanied with a hissing noise. Loss of equilibrium follows, and the sensation of instability requires the aid of a support, as the ground seems to fly from under the feet. Under some conditions it is the surroundings that seem to revolve rapidly. In one of M. Bitot's patients the symptoms consisted of a sensation of shock and sense of being pushed from behind forward, but without making the least progress in walking. M. Bitot designates the first symptoms under the name of prevertiginous, and the others under that of vertiginous. The first are premonitory and relate to the faculties, and the others to the equilibrium.

M. Bitot thinks it is wrong not to take into consideration in cases of vertigo the disorder of "locomotor co-ordination" (Jackson); "the consciousness of disordered equilibrium" (Stephen Mackenzie); "the feeling of instability in space with regard to surrounding objects" (Grainger Stewart). In reality, he says, the troubles in the beginning are important from two points of view. In the first place, they occasionally break out early enough to allow the patient to take precautions against serious accidents. In some cases they have been able to come down from a scaffolding or from a ladder, having been warned in time by the symptoms of the prevertiginous period. n the second place, among the vertiginous, the attack does not often reach the period when there is loss of equilibrium; in that case it is limited to derangements of the sight or hearing. Under these conditions, asks M. Bitot, should they not be considered as symptomatic equivalents of attacks of vertigo? Are there not to be found in this respect among true epileptics or among the subjects of Jacksonian epilepsy troubles, less pronounced without doubt, but very well marked, which, for the neuropathologist, are the representatives of an attack? In the same manner the sensitivo-sensory or motor troubles are not symptomatic equivalents of true or partial epilepsy, except among those who are affected with one or the other of these nervous disorders. However, it must be borne in mind that the symptoms at the beginning may manifest themselves separately, and that from the moment they break out the patients have, under many circumstances, time to take necessary precautions to prevent themselves from falling. The integrity of the faculties remains perfect even up to the time when vertigo sets in, for, although the subjects are obliged to suspend their work for a certain time, they are still able to converse with their companions and to hold their tools. The symptoms vary in duration; among those who have been poisoned for some time it is from two minutes to two minutes and a half, and among those recently poisoned it persists only from thirty seconds to a minute at the longest. But the duration of the attacks has no connection at all with their frequency. There was not one of these patients who had not had at certain moments during the same day several attacks of vertigo, occurring sometimes in the morning, sometimes while walking, and especially while working. It seems, says M. Bitot, that accidents of this nature, are to a certain degree independent of the toxic agent which gave rise to the original disorder; for, whether the patients continue their work or whether they give up their employment, they are not the less subject to attacks which may come on when they least expect them, aside from any appreciable cause.

These various peculiarities, says M. Bitot, do not enable us to distinguish absolutely between vertigo due to lead poisoning and other forms of the disease; therefore it is necessary to resort to other information in order to ascertain its nature. In some cases vertigo does not show itself as a premonitory symptom in the first crisis of acute intoxication. In M. Bitot's cases colic showed itself first in all of them except in one where there had been torpor followed by paralysis of the forearm. It is later in the course of the disease that vertigo becomes established, and this fact is an essential point

in the etiological diagnosis, and enables us to establish the following rule: Whenever a patient does not present symptoms of lead poisoning, such as colic or well-marked paralysis, this vertigo should be considered as dependent upon another cause. This is equivalent to saying that, aside from organic lesions, in cases combining lead poisoning and epilepsy, alcoholism, hysteria, neurasthenia, etc.—all affections that are capable of provoking a vertiginous condition—the vertigo can not be said to be due to lead poisoning unless the patient has previously presented symptoms of such poisoning. —New York *Medical Journal.*

Treatment of Epilepsy.—The author refers to the fleeting and temporary effects obtained by the bromides in some cases of epilepsy, and he discusses the use of large doses, such as 12 grammes in the day. Other agents, such as arsenic, coffee, etc, have been added in order to increase tolerance of the bromides. Remedies such as naphthol have been used to prevent the accumulation of decomposing or toxic products in the intestine.

In those not tolerant of large doses of the bromides, substitutes have to be found. The author has for some three years made use of atropine for periods of six to eight weeks, while the bromides have been omitted. With moderate doses of atropine, no ill effects have been observed. Of 260 epileptics, only 33 were really available for this treatment.

In returning to moderate doses of bromides after the atropine course, it was observed that in one-third of the cases the number of fits became fewer. In five cases there were no fits during two, four, or six months, a result never obtained during the previous bromide treatment. In five cases the value of the bromides seemed less than on former occasions.

It must be remembered that if the bromides be omitted and no drugs given, sometimes a more marked effect is observed when the bromides are resumed, so that the increased action cannot always be attributed to the atropine.

The good effects obtained by Flechsig with the opium and bromide treatment appear to be much better than those given above. A recent publication from Flechsig's clinic still, however, leaves the question in some doubt.—Molli in *Therap. Monatsh.; British Medical Journal.*

The Dietetic and Hygienic Treatment of Consumption.—The foundation of consumption is a condition of mal-nutrition—a decrease in the vital matter of the constitution. This may be due to bad food, impure air and bad living. The lung structure, weak because of poor hygiene and poor nutrition, is still further weakened by inflammation. The tubercle bacilli have a secondary etiology—the constitution must first be weakened. The bacilli will not produce consumption in a perfectly healthy person. A lowered vitality predisposes to their influence. The germs live and multiply only in diseased tissues.

Many kinds of germs are absorbed and taken into the blood from the digestive tract. This produces a catarrhal condition—the first factor in phthisis. A tendency to consumption means practically a starvation of the system. This can be prevented by proper diet and hygiene.

The aim in treatment is to secure rich, healthy blood, to repair the diseased tissues. Not only must the waste products be effectively eliminated, but those of the diseased tissues also. The digestive tract must be prepared to assimilate the nutriment. The food must be of the proper kind, so as to be properly assimilated and nourishing.

The entire body must receive attention—not the pathological process alone. Elimination must be secured through all the channels of the body. The ingestion of hot water in large quantities, with hot sponge baths and rubbing of the skin, will effect this elimination. Drugs must not be blindly depended on. The recovery of the patient depends on the raising of his vitality, just as the lowering of it means the production of disease. Oxidation and elimination of waste products must be provided for.

Alimentation must be secured with readily absorbed and easily assimilated materials of the highest nutritive value. Mental and physical rest, pure, dry air, gentle exercise, etc., are all important, but of no avail if nutrition is not properly seen to.

The proteids or tissue building foods are of special value. Among these, beef is the principal one. The proper quantity must be given. An excess leads to imperfect assimilation. Over-feeding and bad cookery lead to mal assimilation and lay the foundation of phthisis. A vegetable diet contains too much of carbohydrates and too little of the proteids. A meat diet has been shown clinically to be the best. Milk is not as valuable as meat, because it is less easily digested; its sugar makes it prone to ferment; it lacks reparative material—not containing 4% of proteids—and is apt to be impure. Milk may fatten and keep the patient plump, but much of the fat we see is unhealthful. The proteids ingested should exceed in amount the carbohydrates and fats. In beginning treatment, nothing sweet, sour or fried should be allowed. Starchy and farinaceous food entirely forbidden, except a little stale bread and boiled rice. The internal administration of hot water will remove the catarrhal and inflammatory condition of the digestive canal. The meat should be lean and juicy beef with all fat and fiber removed, and chopped very fine. The minute subdivision makes it more easily digested. It should be kept sterile by boiling all implements it comes in contact with. The pulp is now pressed not too firmly into cakes of one-half or three-fourths of an inch in thickness and broiled over a clear coal fire, or one free from smoke or blaze.

If fever prohibits solid food, beef peptonoids, beef tea, or peptonized milk may be given. With this a

small quantity of dry stale bread may be allowed, but it must not exceed the meat in quantity. Vegetables may be added later—a mealy potato, boiled rice, sago or farina gruels. When variety is demanded, tender steak, lamb, mutton, turkey, etc., may be added. The dietetic idiosyncrasies of the patient must be respected. Bad cooking and indigestible food, such as cheese, pastry, macaroni, sausage, lobster, clams, pickles, doughnuts, veal, hard-boiled eggs, cucumbers, impure milk, etc., should be carefully avoided. Also strong coffee or tea and all fried foods.

For liquid food the patient may be allowed thick home-made beef tea or expressed beef juice. Peptonized milk, cocoa, or very weak tea without sugar. Elimination should be rapidly looked after. The eliminating organs should be stimulated by hot water. A glass or two should be taken a few hours before meals, and in half an hour before retiring, with enough water at meals to assist digestion and absorption. The building-up of the broken-down lung tissue is best accomplished by manufacturing pure fresh blood. An excess of a special kind of food is injurious. Starchy, saccharine and fatty foods are usually taken to excess. When fresh meat is ingested, there is an increase in the red corpuscles, but the amount of food that can be oxidized is limited. To maintain the highest standard of health, more of the meat than of vegetables should be taken. The biliary secretion should be restored to a healthy standard, both as regards quantity and quality.

Climate and medicines will not alone effect a cure, but may often prevent phthisis. The ingestion of a proper amount of nitrogenous food is the sheet anchor. Besides the dietetic treatment, the condition of the alimentary canal must be carefully attended to. All treatment is useless unless there is a plentiful supply of fresh air. It stimulates the appetite and digestion. The sick room should be carefully ventilated. In proper weather, the patient should be frequently out of doors. Exercise, without fatigue, benefits nutrition by stimulating the action of the heart, accelerating circulation, and increasing respiration. It increases the oxidation of waste products. Cold sponge baths to the chest act beneficially on the lungs, but should be followed by friction with a coarse towel. A hot sponge bath should be taken at night, and the body afterward vigorously rubbed. Flannel underwear, of a thickness suitable to the season, should be worn. In cold weather the stockings should be of wool.—T. J. McGillicuddy, M.D., in New Pork *Medical Journal.*

The Treatment of the Fever of Phthisis.—Dr. Savigny distinguishes three forms in this disease:

1. The initial or continued.
2. The hectic or concomitant.
3. The septic.

In the last form the purely symptomatic treatment is powerless. The administration of the new antipyretics is not favorable, for all of them diminish the energy of the heart, only influencing the fever as a symptom, if indeed they have any notable effect, and they are only used in rapid tuberculosis, and when humanity demands only that the patient shall be made more comfortable. Hochhalt, after much research, has come back again to arsenic, but with the exception of recent initial apical catarrhs it has no influence upon the course of the disease. Hectic fever is manifestly influenced by this remedy, but it has no action upon the initial fever and upon the rapid forms of phthisis. Fowler's solution is recommended in commencing doses of one to two drops, and increasing, day by day, to five or six; rarely more, for ten drops is quite likely to produce symptoms of poisoning. Other beneficial effects besides the lowering of temperature are the suppression of night sweats and an increase of appetite and body weight. The continued fever offers considerable resistance to the treatment by arsenic, for this fever is a manifestation of caseation, and is an expression of the clinical form of *phthisis florida.* By building up the system one can best combat the tendency to caseation. In these cases the condition of the heart and circulation is important; Brehmer and Dettweiler recommend the prolonged application of ice bags; others use alcohol. Kuhle and Liebermeister advise digitalis, which, however, should be used with caution, but more advantageously the ten per cent tincture of coronilla, in ten to twenty drop doses, can be employed. In cases of initial fever without grave lesion of tissue, in association with fifteen grains of quinine, Hochhalt has seen this fever transformed into the intermittent type, where arsenical treatment is useful. In apyretic phthisis creosote is used; if at the outset it is not well borne by the stomach, it can be administered in cocoa-butter suppositories—with steady increase of all doses; in commencing with large doses there is danger of exciting the fever. In general the antipyretic treatment consists less in reliance upon the antifebrile remedies, properly so called, which have only a slight and transitory effect, as in the use of remedies which act directly upon diseased pulmonary tissues, than upon arsenic, the cardiac tonics, and nutrition by every means which can stimulate it.—*Am. Jour. Med. Sci.; Med. Record.*

Infection as a Cause of Mental Disease.—The author draws the following conclusions in his article on this subject:

1. Specific infection must be included among the causes of mental symptoms and diseases which precede, accompany, or follow febrile and other infectious disorders.

2. Much negative evidence can be adduced in favor of acute delirium or acute mania being due to toxemia—such evidence as is afforded by autopsies which reveal neither gross nor histological lesions; and in these cases the toxemia probably overwhelms the patient before the production of meningitis or other disease.

3. Analogies with nervous affections which are known or believed to be of microbic origin—such as multiple neuritis, myelitis and chorea—favor the view

that insanities with similar or related phenomena and lesions are also microbic in origin.

4. The evidence afforded by careful bacteriological investigation of cases of acute insanity is thus far meager, and shows that various micro-organisms may induce the same or similar types of mental disease.

5. The mental disorders of pregnancy and the puerperal state are probably, in a considerable proportion of cases, toxemic, without reference primarily to childbirth; but it cannot be regarded as proved that a bacillus of either eclampsia or puerperal mania is the sole cause of these affections.—Mills in *Amer. Jour. Med. Science.*

NOTES AND ITEMS

Subscribers of the "Review" desiring back numbers will please write us at once and we will forward same.

A New Serum.—An Italian physician, Dr. Risso, of Genoa, announces that he has discovered a new anti diphtheritic serum which he claims is much more efficacious than Behring's, whose pupil he was. The successful results of its use are reported by the French journals to be confirmed by the highest Italian authorities.—*Jour. Amer. Med. Ass'n.*

The Modern Trend of German Medicine.—It used to be the reproach of medical science in Germany that it was not practical, that its students concerned themselves little with what should be the end and aim of the physician, namely the cure of disease, the relief of suffering, and the saving of life. Once the diagnosis made, all interest in the patient ceased, unless indeed he chanced to die, when he again became an object of interest for pathological purposes. The reproach was not undeserved, although it was somewhat exaggerated. But now things have changed, and a question of therapeutics arouses as great interest as did formerly one of pathology. This change is well illustrated by the comparative sale of two subscription works now being issued in the German language. One, edited by Penzoldt and Stintzing, devoted chiefly to the treatment of disease, is having, so we are informed, a very large sale, while the work edited by Nothnagel, the tendency of which is chiefly pathological, is meeting with but indifferent success. The cause for this change is doubtless the hope of cure that has been aroused by discoveries in bacteriology. Formerly it was nearly all guess-work and empiricism, but now there is a basis upon which to build a science of therapeutics, and inspired with the hope of success, the German shows that he is just as willing to save his patients as is anyone else, provided he has an incentive for trying.—*Medical Record.*

Experiments with Mosquitoes in Mississippi.—Mr. Howard Weed, of the Agricultural College, Mississippi, has had some success in the abatement of mosquitoes by the free use of kerosene upon tanks of water and in other positions which he mentions. His observations are published in the last issue of *Insect Life.* He begins by saying that the use of kerosene, for t' is purpose, has been known for many years in the French quarter of New Orleans. The citizens of that section have found that the addition of kerosene to their water tanks has materially reduced the pest of insects, but much has been written showing that such is the case, and in this age of advancement we can no longer go by hearsay evidence. Everything must be founded upon known facts, and these facts can only be ascertained by experiment. On the college campus are eleven large water tanks, two of which are used for drinking water and the others for irrigation and fire protection. Not far from the limits of the campus are also four pools of standing water, three of which are used for watering stock and the other for irrigation in the horticultural department. These pools, however, are well stocked with fish, and the larvæ of the mosquito are never found there. "Before the water tanks were built, the college campus had been quite free from mosquitoes, but the evil has been constantly upon the increase, reaching its climax early the present season. I have often advised that a small amount of kerosene be placed in each of the water tanks, and the college proctor several times informed me that he 'had a nigger put kerosene in the tanks every week, but it did no good.' The college physician also stated that he had placed some kerosene in a jar of water containing some of the wiggletails, but that the kerosene had not killed them, thus regarding the remedy recommended as ineffective.

"By June 20 of the present year, mosquitoes had become so numerous on the college campus as to make life a burden, and sleeping without a mosquito bar was out of the question. Wishing to demonstrate the effectiveness of the remedy which I had recommended, I took a large glass jar and filled it nearly full with water from one of the tanks, which was fairly alive with the mosquito larvæ. The jar contained several hundred of the larvæ and I took it to the college physician, poured a little kerosene into the jar, and asked him to please watch the effect. This was as expected, for within fifteen minutes all the larvæ were dead." Some of the tanks for fire purposes were in dark attics and relatively free from larvæ. Four tanks had them in large numbers, Mr. Weed treated these with a gallon of kerosene, and ten days later the mosquitoes were nearly all gone from the campus and the collegians were able to dispense with the mosquito nets. Three weeks later some of the tanks were again dosed. Upon all the outdoor tanks a thin film of kerosene has remained since the kerosene was put in. The campus is now nearly free from mosquitoes and has been so since ten days after the kerosene treatment. Hearafter during the sum-

mer, kerosene will be put in the outdoor tanks, putting in enough to keep a thin film over the top of the water.

Mr. Weed recommends the use of kerosene to moderate the irritations that afflict a mosquito-burdened locality. "I have also found that kerosene is a good article to use to prevent mosquitoes from annoying one when they are numerous. To use it for this purpose a little is smeared upon the back of the hands and also upon the face. At first thought this would seem to be a disagreeable operation, but a trial of it will prove that it is not disagreeable in the least. It is quite effective in keeping the mosquitoes away and is much better than the Florida method, which I have been told is to remain secreted under a large iron kettle and with a hammer clinch the bills of the mosquitoes as they are thrust through the kettle."—*Jour. Amer. Med. Ass'n.*

Diffusion of Diphtheria.—There has been no abatement, but the contrary, of the prevalence of diphtheria during the past week. Estimated on the basis of reports received during September the disease has increased about 50 per cent during the last sixty days. Public schools continue closed in many localities and isolation hospitals are overcrowded. In Detroit the public and parochial schools, which were closed on November 24 for one week, remain still closed and it has been proposed to convert the new small-pox hospital, just completed, into a hospital for diphtheria; the disease is also reported epidemic at Tyrone and other points in Michigan. In Chicago, while the disease has seriously increased, it has not been found necessary to close the schools; reports, of its prevalence among the pupils of one school created considerable alarm and the school was taken charge of by the Health Department, which instituted a domiciliary inspection of the families of all pupils and promptly allayed the excitement by revealing the real extent of the disease. The incident has been utilized for a more thorough notification of cases and the exclusion of scholars from infected families and residences. Elsewhere in Illinois the disease is especially prevalent in the central portion of the State, and schools have been closed in consequence at Earlville, Farin, Lilly, Pontoosuc, Five Points, Bracton and a number of other places. It is also epidemic at several localities in Nebraska, Minnesota, Wisconsin, Indiana, Missouri, Kentucky and Ohio, with the usual results; public funerals of diphtheria victims are rigidly prohibited in Fort Wayne and other precautions against spread are enforced, and schools have been closed in St. Paul and Kansas City. Of the Eastern States the most numerous reports come from Massachusetts, New York, New Jersey and Pennsylvania. During November there were upward of 100 cases reported at Yonkers, with a mortality of about 40 per cent; all the public schools, seven in number, were closed on the 25th for an indefinite period, although it was hoped that the disease would be "stamped out" shortly after Thanksgiving. In New York City, in Brooklyn and elsewhere on Long Island the disease is increasing, as well as at Buffalo and points in the interior. The Evelyn Female College, three quarters of a mile from Princeton College campus, was closed on the 29th ult., and the students sent home on account of a fatal outbreak of diphtheria in the institution; one of two students, kept in quarantine, developed the disease and has since died. There is also an increase in the number of cases in Philadelphia, and schools have been closed for indefinite periods at Doylestown, Exeter, South Williamsport and elsewhere in Pennsylvania. Other isolated reports from points in Canada, Oregon, Louisiana, Texas, Tennessee and West Virginia, indicate the pandemic extension of the disease.—*Jour. Amer. Med. Ass'n.*

Necropsy of the Czar.—Following is the official statement relative to the cause of death of Alexander III. of Russia, made by the court physicians, as well as the protocol of the autopsy:

DIAGNOSIS.—Chronic interstitial nephritis followed by cardiac and vascular lesions; hemorrhagic infarct of the left lung, followed by pneumonia.

[Signed] Professor Leyden, Professor Zakharin, Professor Popow, Dr. Hirsch, Dr. Veliamonow, Honorary Court Physicians.

Livadia, Oct. 21 (Nov. 2) 1894.

AUTOPSY.—In the year 1894, the 22d of October (3d of November), we the undersigned, proceeding to embalm the body of the deceased Emperor, Alexander Alexandrovitch, have found the following alterations: Considerable edema of the subcutaneous tissues of the legs and reddish spots on the left knee. The left pleural cavity contained 200 cubic centimeters of reddish serous fluid; in the right side there were 50 cubic centimeters of the same fluid. The apex of the right lung showed an old fibrous cicatrix; the right lung is edematous. The upper lobe of the left lung is slightly edematous and there is an hemorrhagic infarct in the lower lobe filled with blood and containing very little air. The infarct was found in the upper border of the lower lobe of the left lung and presented a triangular area on section—one and one-half by one centimeters. The pericardium contained thirty cubic centimeters of reddish serous fluid.

The volume of the heart is considerably increased. The vertical diameter is seventeen centimeters, the horizontal eighteen. The subserous tissue contains a great quantity of fat. The heart was found in a state of slight diastole. The left cavity is enlarged and the wall of the left ventricle thickened (two and five tenths centimeters). The muscle in this ventricle is pale and flabby and of a yellowish color. In the right ventricle the muscular wall is thinned (six millimeters) and of the same yellowish hue. The valvular apparatus is perfectly healthy.

The abdominal cavity contained about 200 cubic centimeters of serous fluid. The stomach and intestines were filled with a large quantity of gas. The liver is somewhat increased in volume and this organ is very

plethoric. The kidneys have the following dimensions: The left is sixteen centimeters long, seven centimeters wide and four thick; the right, fifteen centimeters long, six and five-tenths centimeters wide and four centimeters thick. The capsule of the kidney peels easily and is of normal thickness. The surface of the kidneys is slightly granular and of a deep red color; the hardness is insignificant. The cortex is lessened (from six to seven millimeters) and of yellowish color—the medulla of a deep red; in the left kidney was a serous cyst, three millimeters diameter.

In virtue of the preceding we are of opinion that H. M., Alexander Alexandrovitch, succumbed to a cardiac paralysis, preceded by a degeneration of the hypertrophied cardiac muscle, and to an interstitial nephritis (granular atrophy of the kidneys).

[Signed] Professor J. F. Klein, D. N. Zernow, Professor M. A. Popow, Dr. N. Valtonkhow, Dr. N. C. Belooussow.

Livadia, Oct. 22 (3d Nov.) 1894.

FORMULÆ

Dysmenorrhea.

℞ Potass. bromid., - - - - - - - - ℥j.
Antefebrin pulv., - - - - - - - ℥ss.
Diovlburnia, - - - - - - - - fℨij.
M.
Sig. Teaspoonful three to four times a day in hot water.

Incontinence of Urine.

℞ Atropin. sulfuric., - - - - - - - - gr.j.
Tinct. rhus. aromatic., - - - - - fℨj.
M.
Sig. Five to ten drops in water for children.

Paralysis.

℞ Ammon. iodid., - - - - - - - - ℥j.
Ammon. carbonic, - - - - - - - - ℥j.
Strychnin. sulfur., - - - - - - - - gr.ss.
Aq. menth. pip., - - - - - - - - fℨv.
Syrup. simpl., - - - - - - - - fℨj.
M.
Sig. Tablespoonful thrice daily.

YALE SURGICAL CHAIR FOR SALE CHEAP.

Our Publishers have just received one No. 10 Yale Surgical Chair in exchange for advertising space, the list price of which is $90.00, they offer same for $45.00. This is a good chance to purchase an A1 chair. For further information address, MEDICAL REVIEW ASSOCIATION, 914 Locust Street, St. Louis, Mo.

THE PURITY OF MALT PRODUCTS.—Whatever may finally come to be thought of glucose as an article of diet, in the present state of opinion the substitution of that substance, wholly or in part, for any malt preparation is quite inexcusable. That being the feeling of the medical profession on the matter, it is exceedingly gratifying to find so competent an investigator, and one so well known, as Dr. Eccles declaring, as he does, that he has searched in vain for any establishment in the vicinity of New York where he could observe certain processes of manufacture of alleged malt products that would lead to objectionable features in the finished article. We take it that Dr. Eccles' statement refers not alone to the substitution of glucose for more desirable alimentary substances, but also to all other errors of preparation, so far as the present state of our knowledge admits of their being guarded against. If we are right in this construction of what he says, the community is certainly to be congratulated.

HOLIDAY RATES VIA BIG FOUR ROUTE.—Tickets will be sold between all stations on the line December 24, 25 and 31, 1894, and January 1, 1895, good returning until January 5, 1895, at greatly reduced rates.

HOLIDAY EXCURSIONS.—The "Missouri Pacific Railway" will sell Excursion Tickets for the Holidays at very low rates December 22, 23, 24, 25 and 31, 1894, and January 1, 1895.

The "Iron Mountain Route" will sell similar tickets December 23, 24, 25, 30 and 31, 1894, and January 1, 1895, both being good for return up to and including January 2. For further particulars call at the City Ticket Office or Union Station.

CINCINNATI, October 17, 1894.

Messrs. L. B. Hewitt Co., Cincinnati, Ohio—

Gentlemen—I have made a thorough chemical analysis of Hewitt's Egg Emulsion of Cod Liver Oil and beg to report the same to be absolutely pure and true to composition as represented. The Cod Liver Oil was thoroughly emulsified by eggs and rendered palatable and permanent by the addition of brandy. This preparation is worthy of recognition by the medical profession and should receive their preference whenever Cod Liver Oil is indicated.

CHAS. S. P. FEUND,
Analytical Consulting Chemist.

THE HANDIEST THING OUT.—If any of our friends are in need of saddle-bags, we would advise them to write to Dr. W. Scott Marshall, 5625 Jackson Avenue, Chicago, Ill., for Illustrated Price List of his Buggy-Case Convertible Saddle-Bags. They are the best things ever seen and just what every rural doctor should have."—*Southern Clinic.*

THE American Medical Publishers Association has just issued its Fall Bulletin, giving all the new advertisers in the field, together with the advertising manager of each concern. A new exchange list has also been prepared, revised and corrected up to date. Both can be obtained by applying to the Secretary, Chas. Wood Fassett, St. Joseph, Mo.

WE ARE just in receipt of an exhaustive Monograph on Kola, issued by the Scientific Department of Frederick Stearns & Co., Detroit, Mich., which gives full information regarding the wonderful tonic stimulant properties of this drug, and many interesting facts relating to its growth and the important part it plays in the social intercourse between the natives of Africa, where it is indigenous. Messrs. F. Stearns & Co. were the introducers of Kola nuts to the Medical and Pharmaceutical Professions of the United States, being the first to offer the drug for sale in the beginning of the year 1881. They are headquarters for Kola nuts in this country, importing them in the fresh state in immense quantities direct from Africa. Any physician who is desirous of obtaining a sample of the fresh nuts for planting, or a copy of the Monograph on Kola should address their Scientific Department.

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